

**Islamic Republic of Afghanistan
Radio and Television of Afghanistan (RTA)**

Islamic Republic of Afghanistan

**The Project for Improvement of
TV Broadcasting Equipment in Kabul**

and

**The Project for Improvement of
TV Broadcasting Facilities in Kabul**

The Follow-up Cooperation Study Report

December 2013

**Japan International Cooperation Agency
Japan International Cooperation System**

GL
JR
13-018

Summary

1. General Description of the Country

The Islamic Republic of Afghanistan is an inland country located at 29 degrees 40 minutes to 38 degrees 46 minutes north latitude and from 60 degrees 58 minutes to 74 degrees 80 minutes east longitude, with a size of approximately 650 thousand square kilometres (1.7 times of Japan's land area) and a population of about 34.39 million (source: World Bank Year 2010).

Afghanistan shares borders with six countries: China, Tajikistan, Uzbekistan, Turkmenistan, Pakistan and Iran. The country prospered as a key point of the East-West trade through the ages.

Afghanistan is also the multiethnic Republic composed of 42% of Pashtun, 27% of Tajik, 9% of Hazara, 9% of Uzbek, 3% of Turkmen, and others. Although the country's official languages are Dari and Pashto, more than 30 local languages are used throughout the country, where those ethnic groups disperse and live in 34 provinces. The capital of Afghanistan is Kabul, located at an altitude of around 1,800 meters. The population of Kabul has increased from 1.78 million in 2003 to 5 million or more today, and the rapid population growth has caused various problems. Nearly 100% of Afghanistan's population is Muslims, 80% of whom are Sunni and 19% Shia (source: CIA World Factbook).

2. Purpose and Background of Follow-up Cooperation

In order to enhance the capacity of Afghanistan's TV broadcasting which plays an important role in policy announcement, education and enlightenment for Afghans including local villagers as the best information source in the country, the Government of Afghanistan requested the Government of Japan for support in upgrading the Radio and Television of Afghanistan (RTA). In response to this request, the Government of Japan provided grant aid for Afghanistan aiming for the construction of TV broadcasting facilities and the provision of equipment to Kabul Broadcasting Station and Kabul TV Transmission Site in 1976. In five years from 1996, the Taliban had effective control over Afghanistan and banned broadcasting of TV or other media for religious reasons, forcing RTA to stop producing TV programs and putting them on the air. As a result, the equipment provided to RTA through the Japanese grant aid project were deteriorated, since the depreciation period of the equipment had already passed and it became difficult to obtain spare parts of the equipment. In addition, because the Transmission Site at the summit of Asmai Mountain was close to the Taliban's stronghold, the facilities and equipment were seriously damaged by US and other forces in the armed conflict resulted from the 9.11 terrorist attacks in the US. Facing this situation, Afghanistan urgently received a 200W second-hand transmitter from Iran. Since this used transmitter was poor quality with low generating power and Kabul is surrounded by mountains and hills, there were areas where it was difficult to catch TV and radio signals. In the light of this situation, the Afghan government called for the cooperation of the Japanese government again to improve the facilities and equipment of RTA, and the Japanese government extended two grant aids to Afghanistan: one is the Project for Improvement of TV Broadcasting Equipment in Kabul in 2002, and the other is the Project for Improvement of TV Broadcasting Facilities in Kabul in 2003 (hereinafter referred to as "the Original Projects").

Having passed eight years since the implementation of the aforementioned Original Projects, the facilities and equipment have been maintained with a certain level of quality and utilized effectively; however, increasing operation hours caused by 24-hour broadcasting as well as satellite-based broadcasting has resulted in deterioration of the facilities and equipment. The RTA's budget impasse is also a cause of frequent troubles and failures of the equipment.

3. Study Results and Contents of Follow-up Cooperation

(1) Flow of Follow-up Cooperation Study

Given in the foregoing, the Government of Afghanistan submitted a request to the Japan International Cooperation Agency (JICA) to investigate the status of the existing facilities and equipment of RTA, assess whether any faulty exists and advise on the maintenance management of the facilities and equipment. Receiving the request from Afghanistan, JICA decided to implement a Follow-up Cooperation study and sent a team to the country from November 3 to 26, 2012 for the purpose of: (i) identifying problems of the existing facilities and equipment, those which need to be repaired and repairing methods; (ii) checking the status of the maintenance management and providing necessary advice; and (iii) confirming the validity of the Follow-up Cooperation study. The team conducted a field survey in Kabul TV Station, Kabul TV Transmission Site at Asmai Mountain and Kabul TV Repeater Site located in Intercontinental Hotel. The survey was also carried out in neighbouring countries such as Pakistan (Karachi) and the United Arab Emirates (Dubai) for possible procurement in third countries. The team collected information and documents related to the study.

(2) Study Results

The equipment to be surveyed is one set of the studio equipment, one set of the transmission equipment and one set of the power supply and air-conditioning equipment. While the primary objective is to restore the equipment to its original state, the team also took account of the possibility to continuously operate the equipment until 2020 when RTA plans transition to digital terrestrial broadcasting. Not only considering the repair of the existing equipment or its replacement with new equipment but also bearing in mind cost minimization in terms of ease of access to spare parts as well as repair and maintenance, the validity of the equipment to be procured and the content of the Follow-up Cooperation have been determined.

The procurement method is divided into five categories. There is no agent for the manufacturers of the equipment procured in the Original Projects, and consequently it is impossible to obtain spare parts and consumables in Afghanistan. Most of the equipment except some items will therefore be procured in Japan or third countries. With regard to the procurement in third countries, Dubai is excluded due to distributorship of the manufacturers and issues related to dispatch of engineers on-site.

The equipment is used effectively, making for its high utilisation; however, the equipment is already beyond the period within which broadcasting equipment is to be renewed. In particular, periodical inspection and replacement of parts are an urgent issue for the equipment with mechanical features. Moreover, in order to continue to produce TV programs, it is essential to renew the equipment installed

outdoors which has been rapidly worn away, deteriorated and damaged. In view of this, it is deemed reasonable to overhaul the equipment through the Follow-up Cooperation so that the function of the Original Projects will be maintained and production of TV programs will be continued.

1) Procurement in Japan

The equipment which is to be replaced with the one provided in the Original Projects and which the RTA is able to manage by itself will be procured, along with spare parts, in Japan. In order to recover the function and performance of the equipment provided in the Original Projects, the compatibility and high credibility are required. Also, the performance and quality of the equipment for business/broadcasting use, not consumer use, need to be guaranteed. It is thus reasonable to procure the equipment in Japan.

The equipment shall consist of the following items which do not require a dispatch of technical engineers to Afghanistan:

- a) Equipment for Master Control Room (CD Player / Stereo Cassette Recorder, Color Monitor, etc.): 1 Set
- b) Equipment for Production Studio (TRIAX Cable, Camera Pedestal, etc.): 1 Set
- c) Equipment for News Studio (Condenser Microphone, Color Monitor, etc.): 1 Set
- d) Equipment for Editing System (CD Player / Stereo Cassette Recorder, Color Monitor, etc.): 1 Set
- e) ENG (Compact Mixer, Gun Microphone, etc.): 1 Set
- f) OB Van (Audio Mixer, Audio Multi Cable, etc.): 1 Set
- g) News Car (Color Monitor, VHF Transceiver, etc.): 1 Set
- h) TV Transmitting Equipment (Power Sensor, Color TV, etc.): 1 Set
- i) Low Voltage Power Distribution System (AVR, UPS, etc.): 1 Set
- j) Power Supply System for Emergency (Parts for Generator, etc.): 1 Set
- k) Power Supply Equipment (Small Engine Generator, etc.): 1 Set
- l) Air-Conditioning (Cooling) Equipment (Chilled Water Pump, Fan Coil Unit, etc.): 1 Set
- m) Air Conditioning (Heating) Equipment (Photo Cell for Sectional Boiler, etc.): 1 Set
- n) Water Supply Facilities (Water Pump, etc.): 1 Set

2) Procurement and Training in Japan

The equipment and the system whose compatibility with the existing system needs to be ensured shall be procured in Japan since they require system design and testing by Japanese manufacturers. Operation training and instruction shall be conducted in Japan to which the RTA engineers will be invited.

- a) Non Linear Editing System: 1 set
- b) SD Memory Camera: 8 sets
- c) SD wireless Camera: 1 set

3) Procurement in Third Country (Pakistan)

The equipment for which the system integration, installation, adjustment, operation training are essential and can be done by overseas manufacturers will be procured in Pakistan.

- a) Character Generator: 6 sets
- b) Intercom Key Panel: 3 units¹
- c) Operation Training of Measuring Instruments (WFM, Audio Monitor, etc.): 1 set

Considering the compatibility with the existing system, it is advisable to procure the equipment through the same manufacturer of the existing system. Since it is impossible to supply the equipment from the manufacturers in Japan with support service including dispatching engineer on-site for security reasons, the equipment should be procured in Pakistan instead. It is already confirmed that the manufacturers' distributors in Pakistan are available for the supply.

4) Procurement in Afghanistan

The heat pump type air-conditioner available in the market in Afghanistan will be procured in Afghanistan.

5) Supervisor Dispatch (Japanese Engineers)

Although RTA has agreed to install the power supply and air-conditioning equipment on its own after receiving the equipment, RTA has requested for dispatch of Japanese engineers for quality assurance. The request is reasonable for the following two reasons: (i) it is necessary to properly install and coordinate the power supply and the air-conditioning equipment which are key facilities for TV program production and to assure their long-term operation; and (ii) it is important to control and check the quality of the installation work to prevent an accident and a fire. The power supply and the air-conditioning equipment shall be procured in Japan because they are in urgent need and require consideration of the compatibility with the existing equipment.

In terms of supervisor dispatch, the manufacturers are unable to send their engineers to Afghanistan. Under this circumstance, it is desirable to select a professional engineer of power supply and air-conditioning equipment, have him/her obtain necessary information for the installation and setup of the equipment from the manufacturer and dispatch him/her to the country.

In terms of transportation, a majority of cargos are unloaded in the Port of Karachi in Pakistan and transported to Afghanistan by truck. In Japanese grant aid projects implemented in Afghanistan in the past, for reasons stemming from security and political issues as well as procedures for tax exemption, it has taken an average of 85 days from shipping from Japan to receiving the cargos in Afghanistan. Since in particular, RTA is not familiar with the tax exemption procedures, it is necessary to support them sufficiently. Most of the items to be procured are precision equipment used for TV broadcasting. The road condition from neighbouring countries to and within Afghanistan is not good. To protect the equipment from transportation vibration or dust, the equipment needs to be covered with damp-proof and dust-proof sheets and crated with cushioning materials.

For this reason, it is advisable to transport the equipment by air to prevent damage to the precision equipment which may occur at the port of discharge or during transportation or storage. Since some of the

¹ After the survey, it turned out to be possible to purchase Intercom Keypanels through the agent in Japan and replaced by RTA. Therefore, it has been decided that Intercom Keypanels should be purchased in Japan.

items such as UPS may not be shipped by air due to their large dimension and weight, it is necessary to check with carriers beforehand. In the event the items cannot be sent by air, ocean transport should be considered for the items, separately from the other equipment.

4. Schedule of Follow-up Cooperation

The implementation schedule, starting from the contract date, is as shown below. Considering that it will take five to eight months to manufacture and four months to arrange shipment, transportation and taking-over, the total period from placement of order to installation will be about 10 months in case of local procurement and about 12 month for procurement in Japan or third countries.

5. Evaluation of Follow-up Cooperation

(1) Effect and Efficiency

RTA is intended to launch digital terrestrial broadcasting in 2020. With no specific implementation plan having been developed, the transition to digital terrestrial broadcasting is unlikely to proceed smoothly. To maintain stable broadcasting, it is vital to continuously operate the existing facilities and equipment.

RTA does an analog terrestrial broadcasting for people living in Kabul and other local cities and provides 24-hours satellite broadcasting to those who live in Afghanistan and overseas. The Follow-up Cooperation will stimulate RTA's broadcasting business and enable RTA to convey much information on Afghanistan as well as the international situation, offering a great benefit to Afghan people living inside and outside of the country. Moreover, it is expected that the stable TV broadcasting will help raise awareness of the society among the audience, which will serve as a foundation for creating a country where wide public participation is encouraged in the future. Compared to a project in which new equipment is procured, this Follow-up Cooperation can be implemented with a very small budget.

(2) Recommendations

The Follow-up Cooperation is to develop an emergency support plan focusing on the operation of the facilities up to at least 2020. In order to promote the RTA's self-sustaining development after 2020, it is vitally important to strengthen the RTA's maintenance management system including the securing of maintenance budgets by RTA itself and the development of new procurement routes.

The personnel responsible for the maintenance of the studio equipment is well aware of the status of the system and maintains and manages the system so that the system can be operated properly. However, any periodic preventive maintenance is rarely conducted. In most cases the system is restored by replacing units or parts through a cut-and-try method. The systematic maintenance work has not been conducted in accordance with manuals, nor has failure been properly recorded.

Quantitative maintenance requires full knowledge of the use of measuring instruments and testing methodology. Although a number of measuring instruments were provided, most of them are not being used for reasons such as difficulty in reading English manuals. Training on the use of the measurement instruments are limited to part of the instruments in the Follow-up Cooperation plan although RTA has requested that the RTA engineers be trained to use the instruments and conduct a test with them. To meet the RTA's request, it is necessary to make and implement an effective plan in consideration of the technical level and skills of the engineers to be trained.

The power supply and air-conditioning equipment, the TV Station and the TV Transmission Site are well maintained without any major problems; however, spare parts are not adequately supplied.

The Maintenance Management Program (MMP) introduced by a technical cooperation project implemented by JICA is being used for identification or inventory of the equipment, but is not properly updated. Spare parts are not listed or registered in the MMP.

While RTA roughly understands what kind of spare parts or consumables are needed for the equipment RTA has and where the equipment is located, the systematic maintenance management based on documented procedures is a challenge to be addressed by RTA. RTA keeps no record of troubles with the equipment. However, the trouble report serves as a basic document to anticipate potential failures and figure out the spare parts which need to be procured. It is therefore recommended to record troubles occurred together with the names of the parts used, their quantities and the date when a measure has been taken.

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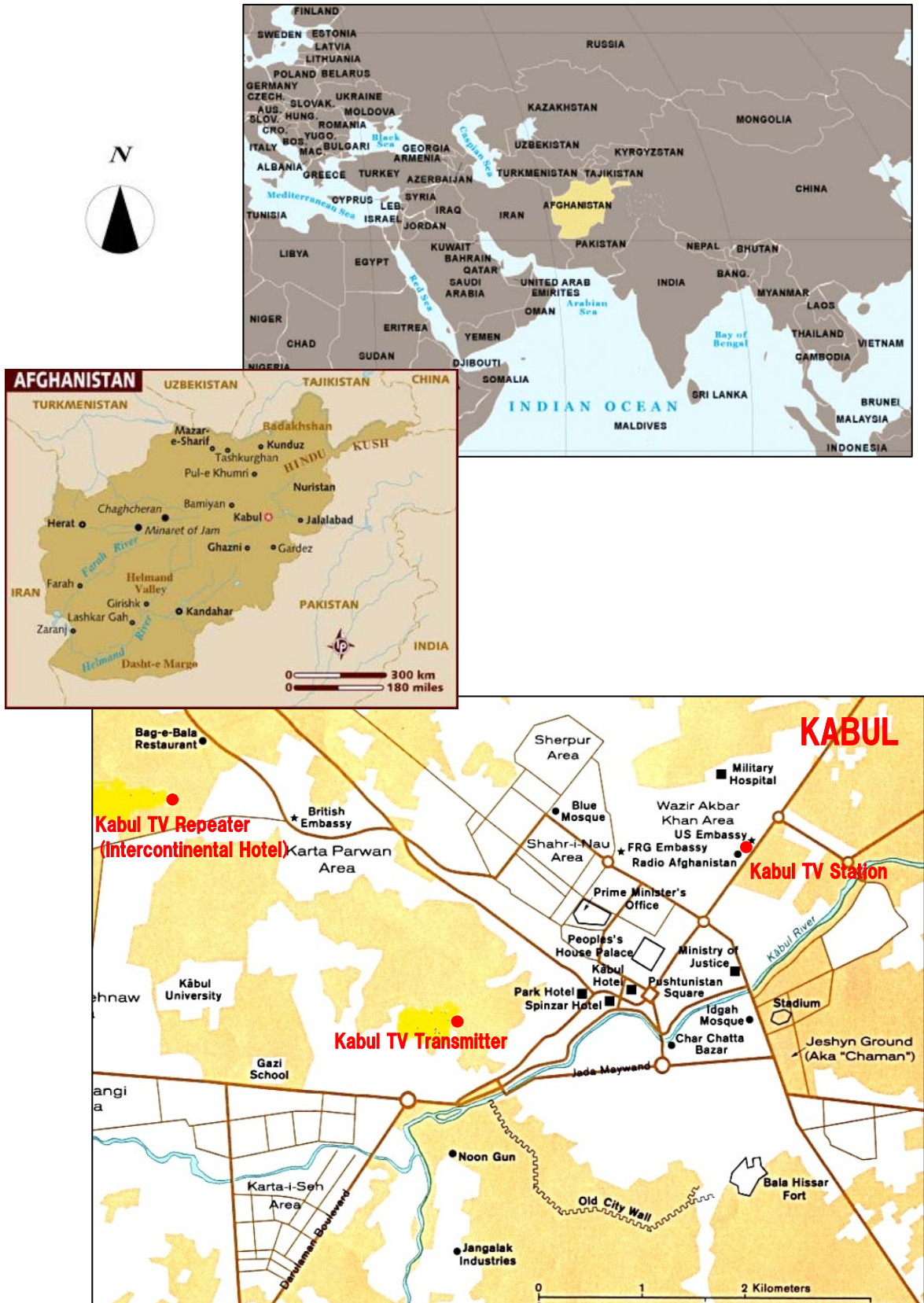
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Project Site Location Map



[Photo of RTA]

<Kabul TV Station>



[Photo1] Appearance of Kabul TV Station



[Photo2] Master Control Room



[Photo3] News Studio



[Photo4] Production Studio / Sub Control Room



[Photo5] Production Studio



[Photo6] Editing Room-1 A/B roll Editing System



**[Photo7] Editing Room-1
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[Photo10] STL/TS Device



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[Photo12] Control System in OB Van



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[Photo14] News Car



**[Photo15] ENG camera
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**[Photo16] Lockable cabinet for ENG
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[Photo17] Low Voltage Power Distribution System (Right one is replacement of AVR installed by RTA)



[Photo18] Power Supply System for Emergency



[Photo19] Air Conditioning Facilities (AHU)



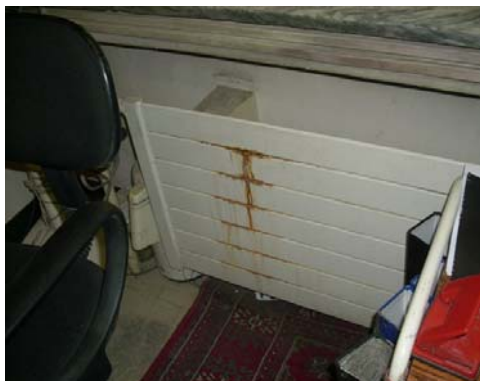
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[Photo22] Air Conditioning Facilities (Cold water pump) corroding due to water leakage.



[Photo23] Situation of water leakage on hot water heater panel



[Photo24] Storage room for Spare parts and consumables

<Kabul TV Transmission Site>



[Photo25] Appearance of Kabul TV Transmission Site



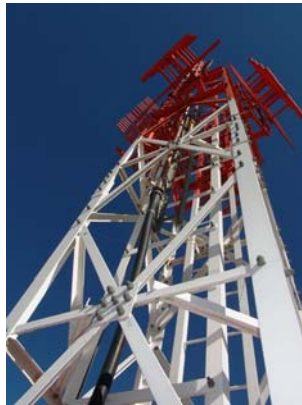
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ABBREVIATIONS

ABU	Asia-Pacific Broadcasting Union
AIBD	Asia-Pacific Institute for Broadcasting Development
ATRA	Afghanistan Telecommunication Regulatory Authority
AVR	Auto Voltage Regulator
BBC	British Broadcasting Council
BECIL	Broadcast Engineering Consultants India Ltd.
BTU	British Thermal Unit
CCU	Camera Control Unit
CD	Compact Disk
DABM	De Afghanistan Breshna Mossesa
DAT	Digital Audio Tape
DW	Deutsche Welle
EBU	Europe Broadcasting Union
ENG	Electric News Gathering
FPU	Field Pick-up Unit
GPS	Global Positioning System
HD	High Definition
IBB	Islamic Bank of Britain
IEC	International Electrotechnical Commission
ISAF	International Security Assistance Force
ITU	International Telecommunication Union
IVR	Induction Voltage Regulator
JICA	Japan International Cooperation Agency
JIS	Japanese Industrial Standards
LD	Lighting Director
MCCB	Molded Case Circuit Braker
MD	Mini Disk
MMP	Maintenance Management Program
MoD	Minutes of Discussion
MoF	Ministry of Finance
MoIC	Ministry of Information and Culture
MoPH	Ministry of Public Health
MoTCA	Ministry of Transportation and Civil Aviation
NIBP	National Institution Building Project
OB Van	Outside Broadcasting Van
PAL	Phase Alternative Line
PBX	Private Branch Exchange

PIE	Program Input Monitoring Equipment
PM	Picture Monitor
RFI	Radio France International
RTA	Radio and Television of Afghanistan
SD	Standard Definition
SMPTE	Society of Motion Picture and Television Engineers
STL	Studio to Transmitter Link
TSL	Transmitter to Studio Link
UHF	Ultra High Frequency
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Culture Organization
UNISCA	United Nations International Students Conference Amsterdam
UPS	Uninterrupted Power Supply
VE	Video Engineer
VHF	Very High Frequency
VTR	Video Tape Recorder
VU	Volume Unit

Chapter 1 Purpose and Background of Follow-up Cooperation Study

Chapter 1 Purpose and Background of Follow-up Cooperation Study

1-1 Particulars of the Project to be studied

The Islamic Republic of Afghanistan (hereinafter referred to as “Afghanistan”) is, an inland, republic nation located in the Middle East to South Asia (from 29 degrees 40 minutes to 38 degrees 46 minutes north latitude, from 60 degree 58 minutes to 74 degrees 80 minutes east longitude), and is a multiethnic nation where many races of Pashtun, Tajik, Hazara, Uzbek, and Turkman, etc. live in the area of about 650 thousand square kilometers (about 1.7 times of Japan) with the population about 34.39 million people (The source: World Bank year 2010). Among more than 30 languages that exist the official language is Dari, and Pashto. The capital is Kabul, and the population is about five million people. The altitude of Kabul is 1,800m above sea level.

After the collapse of the Taliban regime that originated in simultaneous multiple terrorist acts in the United States in 2001, the Government of Japan executed the humanitarian aid, the reconstruction support, and the activities for public peace recovery for the Government of Afghanistan. The Government of Japan has granted about 4,935 million US dollars in total until November, 2013.

In the meeting held in Tokyo in July 2012, the Government of Japan expressed support for Afghanistan of a maximum of three billion dollars in five years from 2012 for the improvement in the development of field and of the public peace maintenance ability.

As for the support to the broadcasting field in Afghanistan, Japan performed the grant aid aiming at “The construction of TV broadcasting facilities and the provision of equipment for Kabul Broadcasting Station and Kabul TV Transmission Site” in 1976, and built the foundation of the TV Broadcasting industry by the Radio Television Afghanistan (hereinafter referred to as “RTA”). Afterwards, Kabul TV Transmission Site was destroyed by the bombing by such as the United States Air force, and thus, maintenance of the deteriorated equipment for program production and broadcasting facilities was a pressing issue in the TV broadcasting prohibition under Taliban rulers, the superannuation of machine parts, and the television transmission place.

To assist to solve this critical issues, the Government of Japan implemented two grant aids “the Project for Improvement of TV Broadcasting Equipment in Kabul” in 2002 and “the Project for Improvement of TV Broadcasting Facilities in Kabul” in 2003 (hereinafter referred to as “the Original Projects”) to modernize the facilities for program production and TV transmission by digitalizing existing equipment. As a result of the modernization of facilities and equipment, RTA is now executing the nationwide 24 hours TV terrestrial broadcasting, the broadcasting in multi languages and the satellite broadcasting for Afghan people living overseas to correspond to the public right to know, and disseminate the adequate information as a public mass communication organization. However, the trouble with the equipment to be frequently maintained has advanced in proportion to the increased operation time. This situation is affecting the daily operation of broadcasting.

The Government of Afghanistan made a request to the Japan International Cooperation Agency (hereinafter referred to as “JICA”) to dispatch the experts for the investigation of existing facilities

and equipment, the planning of repair, and the advice for proper maintenance management. According to this request, the technical cooperation project started in 2010 to reinforce maintenance skills and management ability of the RTA staff. On the other hand, the broadcasting facilities have been operated for eight years, the failure or malfunction of equipment frequently occurred.

The Government of Afghanistan made a request to JICA to dispatch the Follow-up Cooperation Study Team (hereinafter referred to as “the Team”) for the investigation of existing facilities and equipment of RTA, the field survey of the fault and/or degraded equipment, the confirmation of spare parts to be provided, and the advice for proper maintenance management. JICA decided to conduct a Follow-up Cooperation Study on the Original Projects, and dispatched the Team for the investigation of existing facilities and equipment of RTA, the field survey of the fault and/or degraded equipment, the confirmation of repair method and spare parts to be provided, the checking of maintenance management situation, the advice for proper maintenance management, and the validation of Follow-up Cooperation from November 3 to November 26, 2012.

The Team has conducted the field survey for the objected sites (Kabul TV Station, Kabul TV Transmission Site at Asmai mountain, Kabul TV Repeater Site located at Intercontinental Hotel), and has confirmed the contents of objected equipment requested by RTA in cooperation with RTA counterpart. The Team also collected related document and drawing, and discussed with RTA counterpart to summarize the field survey results.

The outline of the Original Projects is as follows.

Project Name:

The Project for Improvement of TV Broadcasting Equipment in Kabul in fiscal year 2002

The Project for Improvement of TV Broadcasting Facilities in Kabul in fiscal year 2003

Implementing Agency: Radio Television Afghanistan (RTA)

Provision: Program production equipment (1 lot),

Power supply and Air-conditioning equipment (1 lot),

TV transmission and repeater equipment (1 lot),

Rehabilitation of facilities (1 lot)

Project Total Amount:

2.2 Billion yen for the Project for Improvement of TV Broadcasting Equipment in Kabul

790 Million yen for the Project for Improvement of TV Broadcasting Facilities in Kabul

1-2 Object Facilities and Equipment of Follow-up Cooperation Study

1-2-1 Object Facilities under Follow-up Cooperation Study

(1) Kabul TV Station

The Kabul TV Station is one of the Follow-up Cooperation Study object facilities which is located in the center part of the Kabul city, at 1,800m above sea level. It was maintained by the grant aid of Japan in fiscal year 1976, and complete repair works were executed by the Original Projects in fiscal year 2002 and 2003. The building is a two-storied reinforced concrete building, which total floor area is about 2,100m².

The first floor consists of the master control room/news studio sub-control room, the news studio of about 50m², the program production studio of about 100m², the program production studio sub-control room, the telecine room, the power supply and air-conditioning equipment room, scenery & props room, the maintenance room, and the storage and the office, etc. The second floor is composed of the news program recording/editing room with announce studio, the HDTV editing room, the A/B roll editing room, 1 to 1 editing room, and the office, etc.

Figure 1-2-1-1 shows the Floor Plan of First Floor, and Figure 1-2-1-2 shows the Floor Plan of Second Floor.

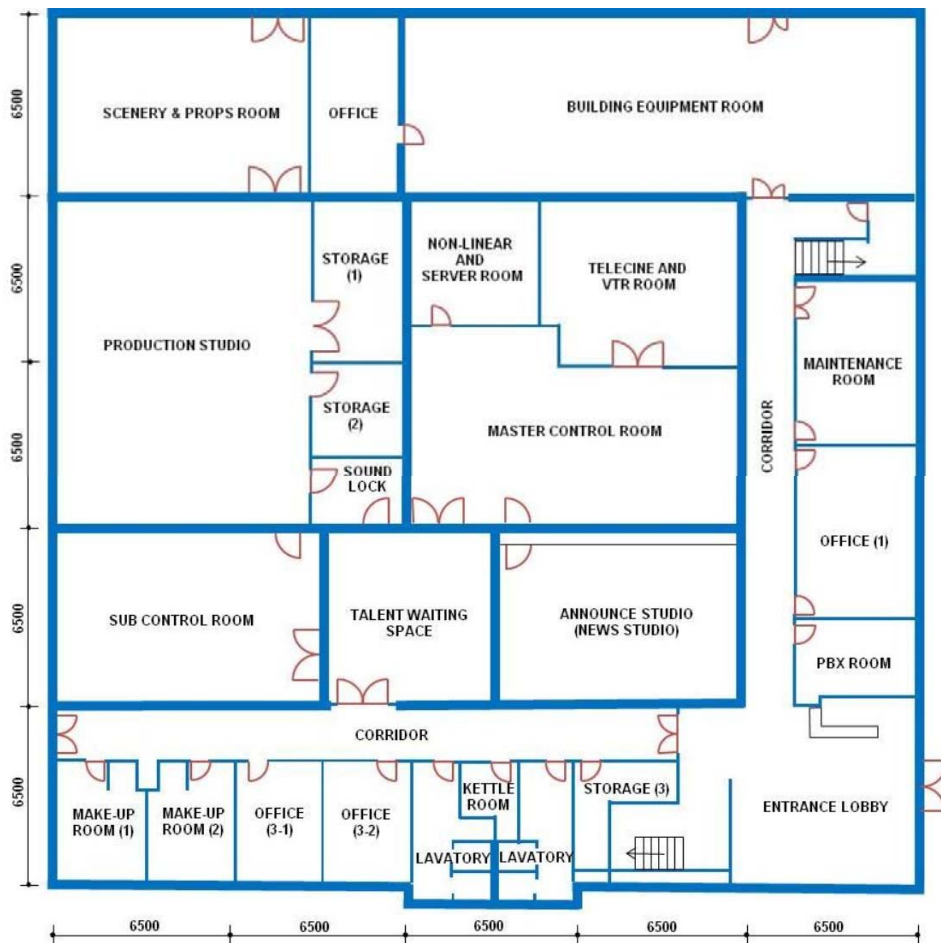


Figure 1-2-1-1 Kabul TV Station Floor Plan of First Floor

Room	Main equipment/Function	Remarks
MASTER CONTROL ROOM	Master control system/ Sub-control system for News Studio	
ANNOUNCE STUDIO (NEWS STUDIO)	Studio for news program	Area: approx. 50m ²
TELECINE AND VTR ROOM	Telecine system	
PRODUCTION STUDIO	Studio for production	Area: approx. 100m ²
SUB CONTROL ROOM	Sub-control system	
BUILDING EQUIPMENT ROOM	Power supply/air-conditioning facilities	
MAINTENANCE ROOM	Equipment repair/adjustment, Measuring instruments, Equipment manual cabinets	
STORAGE (1)	Storage for equipment, spare parts, consumables	

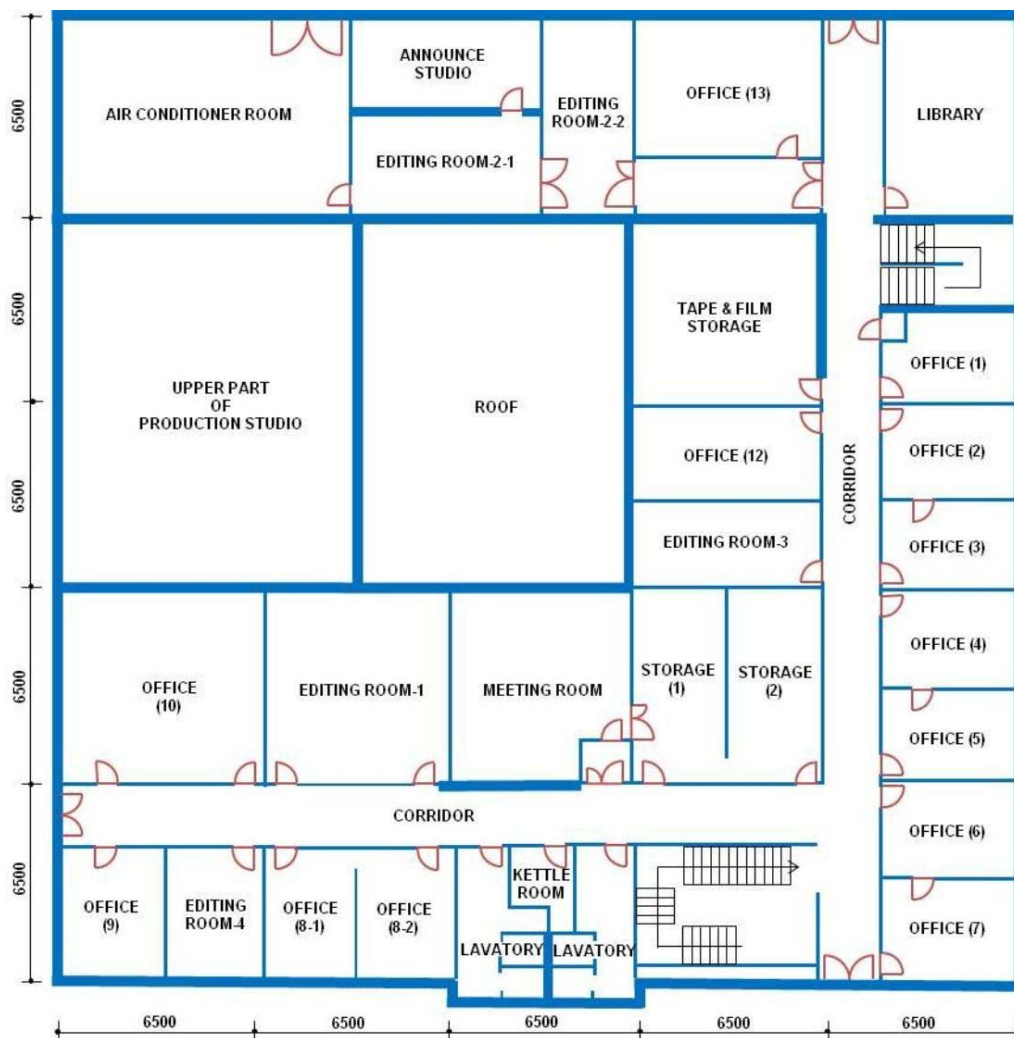


Figure 1-2-1-2 Kabul TV Station Floor Plan of Second Floor

Room	Main equipment / Function	Remarks
EDITING ROOM-1	A/B roll editing system/ 1 to 1 editing system	
ANNOUNCE STUDIO/EDITING ROOM-2-1	Announcer Studio/Editing system	
EDITING ROOM-2-2	HDTV editing system	
EDITING ROOM-3	A/B roll editing system	
EDITING ROOM-4	1 to 1 editing system (two sets)	
AIR CONDITIONER ROOM	Air-conditioning facilities	

(2) Kabul TV Transmission Site

The Kabul TV Transmission Site is one of the Follow-up Cooperation Study object facilities which is located at Asmai Mountain in the Kabul city, at 2,075m above sea level. It was maintained by the grant aid of Japan in fiscal year 1976, and complete reconstruction works were executed by the Original Projects in fiscal year 2002 and 2003. The facilities consist of the main building, the annex building, and 30m self-supporting tower, etc. The main building is one-storied reinforced concrete building, which total floor area is about 225m². The main building consists of the transmitter room, the emergency generator room, the monitor room, the night duty room, the kitchen, the storage, and the storage and the office, etc.

Figure 1-2-1-3 shows the Plan of Kabul TV Transmission Site.

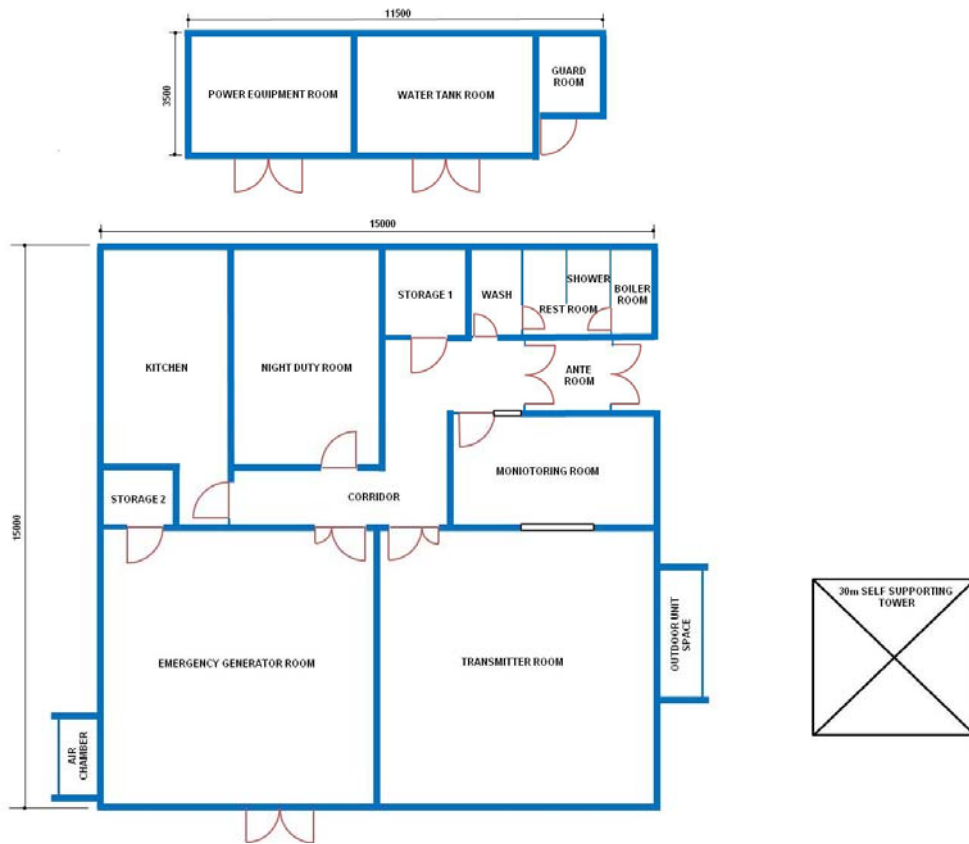


Figure 1-2-1-3 Kabul TV Transmission Site Plan

Room	Main equipment / Function	Remarks
TRANSMITTER ROOM	TV transmission equipment/ Air-conditioning facilities	
EMERGENCY GENERATOR ROOM	Emergency generator/ Power supply facilities	
MONITORING ROOM	On-air monitoring	
30m SELF-SUPPORTING TOWER	Transmission antennas, STL/TSL/FPU antennas, VHF antennas	
ANNEX BUILDING	Power supply facilities/Water tank	Area: approx. 38m ²

(3) Kabul TV Repeater Site

The Kabul TV Repeater Site is one of the Follow-up Cooperation Study object facilities which is located in the west part of the Kabul city, at 1,866m above sea level. It was installed by the Original Projects in fiscal year 2002 and 2003. The repeater equipment is installed in the TV Repeater Equipment Room (inside the elevator machine room) of penthouse in Intercontinental Hotel, and the transmitting and receiving antennas are installed on the existing triangular pillar mast (about 8m) located on the rooftop of the elevator machine room.

Figure 1-2-1-4 shows the Plan of Penthouse.

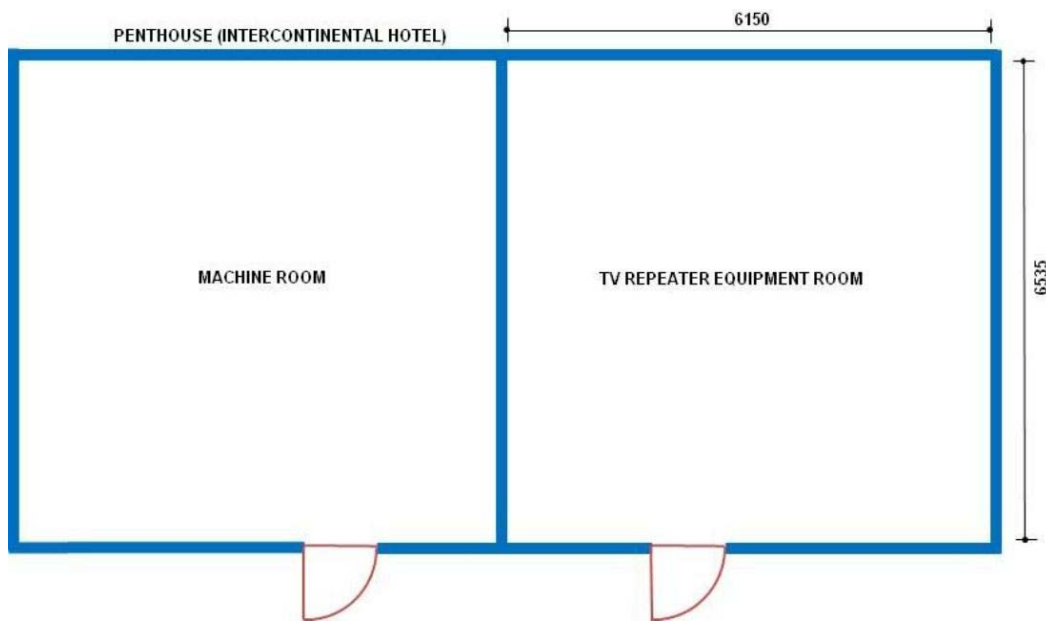


Figure 1-2-1-4 Kabul TV Repeater Site Plan

Room	Main equipment/Function	Remarks
TV REPEATER EQUIPMENT ROOM	TV repeater	
EXISTING 8m SELF SUPPORTING MAST	TX antenna/RX antenna	Existing mast is located on the rooftop of elevator machine room

1-2-2 Object Equipment under Follow-up Cooperation Study

The team has conducted the field survey for the objected sites (Kabul TV Station, Kabul TV Transmission Site at Asmai mountain, Kabul TV Repeater Site located at Intercontinental Hotel) regarding to the broadcasting equipment, the transmission equipment, the power supply and air-conditioning equipment granted by the Original Projects in order to prepare the effective Follow-up Cooperation plan to restore the system to original function and performance.

The field survey includes the investigation of the existing facilities, the fault and/or degraded equipment, and the spare parts/consumables inventory.

Table 1-2-2 shows the object equipment under this Follow-up Cooperation Study.

Table 1-2-2 Object Equipment under Follow-up Cooperation Study

No.	Facilities/Equipment	Q'ty
1	Studio facilities	
	1) Equipment for Main control room	1 lot
	2) Equipment for production studio	1 lot
	3) Equipment for news studio	1 lot
	4) Equipment for editing system	1 lot
	5) Equipment for telecine room	1 lot
	6) Equipment for ENG	1 lot
	7) OB Van	1 lot
	8) News car	1 lot
	9) Equipment for HDTV editing system	1 lot
	10) Equipment for STL/TSL	1 lot
11) Lighting equipment	1 lot	
2	TV transmission facilities	
	1) Equipment for TV transmission	1 lot
	2) TV repeater	1 lot
3	Power supply facilities	
	1) Low voltage power distribution system	1 lot
	2) Power supply system for emergency	1 lot
4	Air-conditioning facilities	
	1) Air-conditioning equipment	1 lot
	2) Heating equipment	1 lot
5	Measuring instruments	1 lot
6	Spare parts/Consumables	1 lot
7	Equipment manuals/Drawings	1 lot

Chapter 2 Current Status of Sector Concerned

Chapter 2 Current Status of Sector Concerned

2-1 Situation of Television Broadcasting in Afghanistan

A private broadcasting company began to enter into the broadcasting industry around 2005 though it was only RTA to do Television Broadcasting when the Original Projects from begun. This was because of the depreciation of broadcasting equipment by the technological innovation of digital processing, and of the increment of advertising revenue by the economical situation that turned upward after the collapse of the Taliban regime. The TV transmission stations that have obtained the authorization of VHF and UHF terrestrial TV channel from Afghanistan Telecommunication Regulatory Authority (ATRA) are 33 sites in Kabul including RTA, and 47 sites in the provinces as of November 2012. The satellite broadcasting channels are 17. However, it is uncertain the terrestrial broadcasting by private companies is actually operated and is transmitted even those company have the permit of TV channel frequency.

Present TV viewers are about 10 million people in Afghan whole land, of which about two million people in Kabul. (Source: RTA)

Regarding the major TV broadcasting companies, the number of authorized terrestrial transmission authorization channel and the satellite broadcasting operation channel list are shown in Table 2-1.

Table 2-1 List of Authorized Terrestrial Transmission Channel and Satellite Broadcasting Operation Channel

TV broadcasting company	No. of CH In Kabul area	No. of CH In Local area	Total No. of terrestrial broadcasting CH	No. of satellite broadcasting CH
RTA	2	48	50	3
Ariana	2	31	33	4
Lemar	1	19	20	1
Tolo	1	13	14	1
Noor	2	12	14	1
TV-1	1	12	13	2
Maiwand	1	9	10	0
Arzo	0	10	10	0
Tamadon	2	6	8	2
Shamshad	1	7	8	0
Aina	0	7	7	0
Sabah	1	5	6	2
Afghan	1	5	6	1
Khorshid	1	4	5	0
Samshad	0	4	4	1

Ayina	1	2	3	1
Asia	0	3	3	0
Zhwandoon	1	1	2	1
Watan	1	1	2	0
Tolo News	1	1	2	1
Arzu	1	1	2	1
Rah-e-Farda	1	0	1	1
Pashto	1	0	1	1
Seven-7	1	0	1	1

Source: ATRA / LyngSat

2-2 Current Status of Implementing Organization (RTA)

RTA opens its main office in Kabul, and branch offices in five suburban cities (Mazar-i-Sharif, Herat, Kandahar, Badakhshan, and Jalalabad). It used to have delay in broadcasting in suburban area because the recorded tapes were delivered by flights and vehicles previously, however the program is now in real time delivered to a local branch by way of the satellite link, and it broadcasts nationwide from the various transmission sites for 24 hours. Facilities located in 37 places actually transmit as of November 2012 though obtaining authorization of 50 terrestrial TV channels in the entire Afghanistan. The coverage area is about 40% of whole land due the low transmitting power, and it is limited to the vicinity of central cities in each state (state capital and/or commercial city). Moreover, RTA is performing 24 hours domestic-oriented satellite broadcasting and overseas satellite broadcasting for Afghanistan people who reside abroad.

RTA has maximum terrestrial broadcasting coverage area, and is transmitting the programs in whole area of Afghanistan as a sole public broadcasting organization of Afghanistan. RTA is extremely familiar mass media to acquire the useful information in Afghanistan in which the literacy rate is very low (male 50%, female 34%; source: The Ministry of Foreign Affairs and UNESCO), and it is presumed that about 11 million people, which corresponds to about 30 percent (30 %) of the population are illiteracy. RTA contributes to all aspects of life nationwide by continuously broadcasting programs of education, religion, medical treatment, welfare information, society, culture, politics, economy, and international information, etc. Several languages are used because it is a multiethnic nation, and the program broadcasting is executed in some of those major local languages.

RTA is planning to the increase the local broadcast station and the transmitting station for the expansion of Television Broadcasting in the future, the transmitting power reinforcement, the equipment function strengthening of the transmitter, and the studio installations to the various places. Moreover, new establishment of Kabul broadcasting station (complex) and the program production studio building are planned because of insufficient number of production studio with an enough area and a sub-control room. In addition, the promotion and strengthening of the improvement of the

project and the production ability of the program, the program production staff, and the broadcasting equipment engineer are planned.

RTA is further planning to shift to a digital terrestrial broadcasting in 2020, however, there are many people who cannot enjoy TV program because of the lack of TV broadcasting infrastructure and/or economical problems, as well as various problems such as the budget treatment to shift to the digital system, the strengthening of digital broadcasting technology according to the system migration including the training of broadcasting engineer, and the replacement of TV reception devices. The preparation of master plan on the digitalization shift and accomplishment of the implementation of steady plan are pressing issues.

2-3 Supports/aids to RTA by Other Donors

Table 2-3 shows the supports/aids to RTA by other donors after 2003.

According to RTA, the up-link equipment delivers the program to the local broadcasting station and foreign countries, and Jalalabad TV stations are operating at the moment. The FM expansion project and the capacity building project are continuously supported by the donors. The equipment/system of other projects is not functioning due to the technical issues, etc.

Table 2-3 Supports/aids to RTA by Other Donors

Year	Organization	Project
2004	UNESCO	Improvement of TV news desk
2004	RFI	Improvement of Radio news desk
2004	BECIL	Reconstruction of SW station, Kabul
2004	BECIL	Installation of Up-link station, Kabul
2005	BECIL	Reconstruction of Jalalabad TV station
2007	BECIL	Installation of 24 transmitters in 24 provinces
2003-2010	IBB	Expansion of FM in Afghanistan
2003-2007	BBC	Expansion of FM in Afghanistan
2007	DW	Establishment of international news desk
2003-2007	JICA	Capacity building
2003-2012	ABU	Capacity building
2003-2012	AIBD	Capacity building

(Source: RTA)

Additionally, the project that is scheduled to be signed in a few weeks is mentioned as follows.

Project name: National Institution Building Project (NIBP)

Project budget: NIBP fund that UNDP supports

Cooperation period: 3.5 years or more

Cooperation organization: Asian Broadcasting Union (ABU)

United Nations Development Program (UNDP)

National Institution Building Project (NIBP)

Contents of cooperation: Capacity building for Radio and Television Broadcasting technology

Chapter 3 Follow-up Cooperation Study Results

Chapter 3 Follow-up Cooperation Study Results

3-1 Outline and Activity Situation of Implementing Organization (RTA)

3-1-1 Organizations and Staff

The responsible organization of the Original Projects is the Ministry of Information and Culture (MoIC), and implementing organization is the Radio Television Afghanistan (RTA). The operation and maintenance management are done as an independent organization with the president at the top under the supervision of MoIC. The total number of MoIC staff is 4,700 people, of which 2,100 people are staff of RTA.

This RTA main office is composed of staff departments of the general affairs, the audit bureau, the planning bureau, the personnel, the finance, and program production departments of the education and art, the news program, the radio broadcasting, the TV broadcasting, the announcer, and the engineering department for facility operation and maintenance, and the managing department for local radio and TV broadcasting stations.

The number of staff of Engineering Department, which is main object of Follow-up Cooperation Study is 292 people, and it is divided into six sections of technological development, power supply and air-conditioning, TV technological, radio technological, repeater, and transmission.

MoIC organization chart is shown in Figure 3-1-1-1, and RTA organization chart is shown in Figure 3-1-1-2.

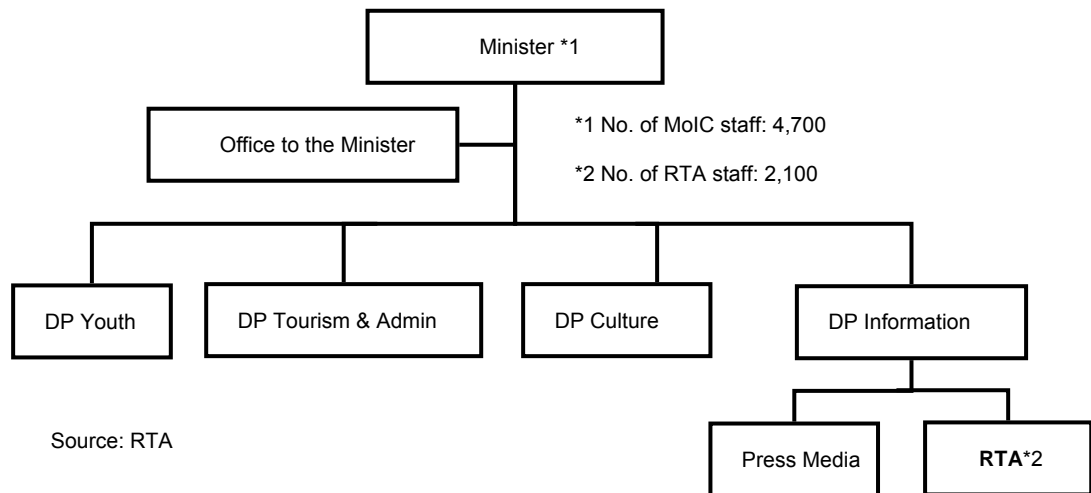


Figure 3-1-1-1 Ministry of Information and Culture (MoIC) Organization Chart

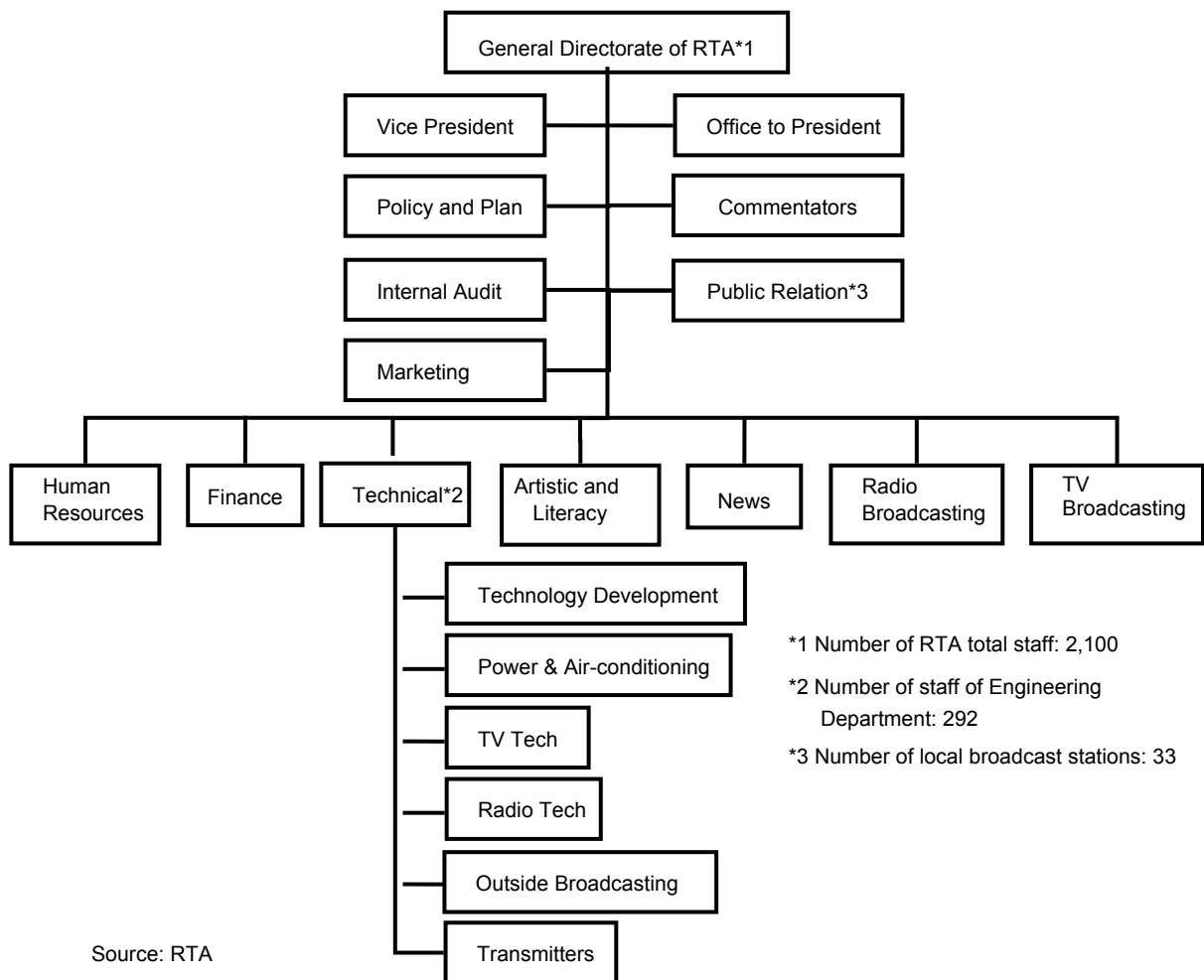


Figure 3-1-1-2 Radio Television Afghanistan (RTA) Organization Chart

3-1-2 Business Scheme

The shift to a digital terrestrial broadcasting until 2020 is planned as development of a national level, however RTA has not completed the decision of the master plan. Moreover, RTA has neither completed the plan to advance the following business schemes though a concrete execution schedule.

< Business Scheme under decision >

- New establishment of TV complex (Kabul)
- Building construction for radio broadcasting(Kabul)
- Domestic FM radio net expansion
- Internet function strengthening between RTA headquarters (Kabul) and local broadcast station
- Local TV station construction

- Storage and preservation of past programs to digital archive
- < Other Executing Plan >
- New establishment of TV Station Building (Herat, Paktia, Baghlan, and Kondoz)
 - FM radio net expansion (Zabul, Ghazni, Helemand, Logar, and Laghman)

3-1-3 Financial Situation, Revenue and Expenditure Situation

As mentioned above, RTA belongs to the Ministry of Information and Culture (MoIC). About 50% of the budget of MoIC is distributed to RTA as a management budget of RTA, and the budget measures from another organization is not distributed. Therefore, the advertising revenue that RTA has received is not directly budgeted by RTA itself but it is first included as part of the MoIC budget that the Ministry manages then redistributed to RTA as part of RTA budget. The budget performance of entire RTA (TV and radio section), of in the past five years is shown in Table 3-1-3-1. The budget performance of RTA TV section is shown in Table 3-1-3-2, respectively.

Table 3-1-3-1 Revenue and Expenditure (RTA) (Radio & TV)

(USD)

Item \ year		2007	2008	2009	2010	2011
Revenue from government		3,980,000	4,890,000	4,900,000	5,160,000	6,470,000
Revenue from others		Nil	Nil	Nil	Nil	Nil
Expenditure	Personnel expenses	2,340,000	2,634,000	2,840,000	3,020,000	3,840,000
	Program production cost	71,000	99,000	45,500	50,000	52,000
	Electric/Fuel cost	1,136,000	1,584,000	930,000	1,000,000	1,458,000
	Maintenance cost	71,000	99,000	46,500	50,000	72,900
	Facility/Material cost	1,420,000	1,980,000	910,000	1,000,000	1,040,000
	General Expenses	142,000	198,000	91,000	10,000	104,000
	Equipment expense	240,000	282,000	220,000	140,000	140,000
Expenditure Total		5,420,000	6,876,000	5,083,000	5,270,000	6,706,900

(USD1=AFN50)

Source: RTA

Table 3-1-3-2 Revenue and Expenditure for this Project (Television)

(USD)

Item \ year		2007	2008	2009	2010	2011
Total revenue		2,626,800	3,227,400	3,232,000	3,405,600	4,270,200
Expenditure	Personnel Expenses	1,544,400	1,738,440	1,874,400	1,993,200	2,534,400
	Travel Expenses	4,686	6,534	3,069	3,300	4,811
	Material Expenses	937,200	1,188,000	600,600	660,000	686,400
	Maintenance Expenses	42,174	58,806	27,621	29,700	43,303
	Electric/Fuel Expenses	749,760	1,045,440	613,800	660,000	962,280
	Equipment Expenses	158,400	186,120	145,200	92,400	92,400
Expenditure Total		3,436,620	4,223,340	3,264,690	3,438,600	4,323,594

(USD1=AFN50)

Source: RTA

The proportion of the personnel expenses accounts for about 57.6% (average of five years in the past), and it is large among expenditures of the budget performance including the TV section and the radio section. On the other hand, the program production cost accounts for only 1.3%, and the budget to produce the original program is almost none. The proportion of the personnel expenses is about 57.7% for the TV section. According to RTA, the actual expenses exceed the budget in each fiscal year, and the shortfall is treated with the supplementary budget based on Executive Order.

Table 3-1-3-3 shows results of maintenance cost in the TV section.

The purchase budget of new equipment including the equipment for replacement accounts for only 4.2% of the budget of TV section, and only 5.5% even if the spare parts and the consumables purchase budgets are added. In addition, the budget for the repair of equipment by the subcontractor is not included, hence, the broadcasting facilities are operated and maintained using only the capital equipment provided by the grant aid of Japan. The situation of system operation is quite critical due to the reasons mentioned above.

Table 3-1-3-3 RTA TV Section Maintenance Cost Results

(USD)

Item \ year	2007	2008	2009	2010	2011
Purchase of spare parts	25,304	35,283	16,572	17,820	25,981
Purchase of consumables	16,870	23,523	11,049	11,880	17,322
Purchase of new equipment for replacement	158,400	186,120	145,200	92,400	92,400
Total	200,574	244,926	172,871	122,100	135,703

(USD1=AFN50)

Source: RTA

3-1-4 Broadcasting Service

RTA is transmitting 24 hours broadcasting service for the domestic and foreign countries. The classification, the ratio, and the contents of the program are as follows.

- News, Current Topics : 19%

The programs provide information on the place and situations of terrorism, the disaster, and the crime, etc. RTA plays their role to function as a media to provide such information in Afghanistan where the mass communication is not fully developed in the suburban cities. The risk and damage are offered and information to prevent it is being offered to the minimum.

- Educational : 12%

The programs help learning activity of working adults and promote the education of intellectual trainings such as for preschool child, the students of elementary school, junior high schools and the high schools and assist in their learning activities.

- Entertainment, movie, music, and sports : 19%

The programs help amusing the viewer through the movie, music, and the drama and sports, etc. and giving diversion of mind and the relief.

➤ Culture and information : 29%

The programs provide the knowledge of culture and refinement, history, art, economy, science, nature, medical treatment and daily life information, etc. to improve one's standard of living through the programs.

➤ Religion : 10%

The programs provide the Koran and the high priest's preach mainly, which plays an important role in Muslim nations, including Afghanistan.

➤ Local language : 7%

The programs in local language used in various places help promoting equalization of the opportunity of informing and brewing the sense of equality and harmony among various races.


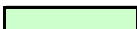









➤ Public announcement and public information : 4%

The programs provide benefit to the viewer by appropriately passing on information related to administration briefers and public, and the social stability through information sharing.

Table 3-1-4 shows weekly TV program timetable.

Table 3-1-4 Weekly TV Program

Time	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
6:00	Religious program	Religious program	Religious program	Religious program	Religious program	Religious program	Religious program
7:00	News	News	News	News	News	News	News
7:10	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning
8:00	News	News	News	News	News	News	News
8:10	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning
9:00	News	News	News	News	News	News	News
9:10	Sport week	National army	Future makers	Window	Child	Teenagers	Film to teenagers
9:30	Every where every co	Picnic-animal world	Agriculture-police	Youth	Our city is our home	Toward prosperity	Film youth
10:00	News	News	News	News	News	News	News
10:10	Week discussion	People & official serie	Discussion	Mirrors city	Warm minutes	Economic	From archive
10:40	Week discussion	Achievement	Our world	Silk convoy	People culture-book	Glance-cinema	From archive
11:00	Pashai-Baloche	Pashai-Baloche	Pashai-Baloche	Pashai-Baloche	Pashai-Baloche	Pashai-Baloche	Pashai-Baloche
11:40	Report	Report	Report	Report	Report	Report	Report
12:00	News	News	News	News	News	News	News
12:10	Health	Facts search	Family life	Serial	Reflection	The other half	Serial-U-& TV
12:30	Through light	Religious program	Religious question	Judiciary program	Religious question	Lesson from Quran	Religious program
13:00	Noorestani	Noorestani	Noorestani	Noorestani	Noorestani	Noorestani	Noorestani
13:20	Colored arc	Red pepper	TV magazine	Reviews & comment	7 city art-bus smile	Perspective	Religious question
14:00	News	News	News	News	News	News	News
14:10	An hour with u-conce	People & music	Hawa wa nawa	Medical Q-L-music	An hour with u-conce	People & music	Hawa wa nawa
15:00	Baloche Uzbaki	Baloche Uzbaki	Baloche Uzbaki	Baloche Uzbaki	Baloche Uzbaki	Baloche Uzbaki	Baloche Uzbaki
15:40	Carton	Carton	Carton	Carton	Carton	Carton	Carton
16:00	News	News	News	News	News	News	News
16:10	Future makers	Window	Child-window	Teenagers	Our world	Future makers	Picnic-animal world
16:30	Ha-wa	Youths	Our city is our home	Animal world-report	Agriculture-Police	Ha-wa	Family life
17:00	News	News	News	News	News	News	News
17:10	Religious program	Religious question	Judiciary program	Religious question	Lesson from Quran	Religious program	Through light
17:30	Achievement	Religious question	Back of the door	Religious question	Wicket-green rectang	Sports week	National army
18:00	Voice of Ashna	Voice of Ashna	Voice of Ashna	Voice of Ashna	Voice of Ashna	Voice of Ashna	Voice of Ashna
19:00	Serial	The other half	Aging love, serial	Toward prosperity	Serial-you TV	Health	Serial
19:30	Report	Report	Report	Report	Report	Report	Report
20:00	News	News	News	News	News	News	News
21:00	Silk convoy	City mirror	Reflection	Economic	Nega-cinema	Seeking the truth	An hour with u
21:30	TV magazine	People culture-book	7 city art-smile stop	Perspective	Colored arc	Red pepper	An hour with u
22:00	English news	English news	English news	English news	English news	English news	English news
22:10	Serial	Discussion	Review & comment	Warm minutes	Sour khiyal	Film	Week discussion
23:00	From archive	Love aging, serial	Foreign sport	Foreign serial	Bazm spanning	Film	Concert
23:40	Whispers	Hawa-nawa	Whispers	People & music	Bazm spanning	Film	Concert
0:00	News	News	News	News	News	News	News
1:00	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning	Hello good morning
2:00	English news	English news	English news	English news	English news	English news	English news
2:10	An hour with u	Discussion	City mirror	Reflection	Economic	Serial-u-& TV	Week discussion
2:30	Concert	Silk convoy	People culture-book	7 city art	Perspective	Colored arc	Red pepper
3:00	Medical question	Serial	Other half	Serial	Review and comment	Cinema-negah	Health
3:30	Concert	TV magazine	Music & people	Our city is our home	Toward prosperity	Music hobby	People and music
4:00	Concert	Report	Music & people	Warm minutes	Report	Music	People and music
4:30	Through light	Religious program	Religious question	Judiciary program	Religious question	Religious program	Lesson from Quran
5:00	Family life	Week sport	Youth	Achievement	Religious Question	Agriculture-police	Qawwali
5:30	National army	Future markers	Window	Child	Teenagers	Wicket-green rectang	Sport week

	: News		: Informative		: Religious		: Learning and Education
	: Local		: Literary		: Athletic		: Information and Education
	: Social		: Entertainment		: Politics Information		

3-2 Situation of Object Facilities and Equipment

3-2-1 Follow-up Cooperation Study Summary on Object Facilities and Equipment

The field survey of the equipment was conducted to verify the quantity of spare parts/consumables, the substitution and/or the new equipment to be granted by the Follow-up Cooperation to restore to the original function/performance of the equipment maintained by the Original Projects, and that validity.

The visual check of object equipment was performed one by one with the person in charge of RTA (counterpart). The operation check of equipment was also executed if the Follow-up Cooperation Study could be done without any interruption of broadcasting activities. Moreover, the interview about the one whose operation situation was not able to be confirmed was done from the counterpart. The interview for the stock status and the visual check of spare parts/consumables, especially lighting lamps and batteries, were executed, and the number of replenishment was examined which will be necessary for the operation in the future.

The equipment is well maintained as a whole, however, there is much equipment that has already passed their life time, degraded equipment due to high utilization rate, and faulty equipment due to abrasion and aged deterioration. This situation affects the equipment operation of the Original Projects. In Afganistan, since the consumables, parts, and the spare parts are not available, they must be procured and repaired through overseas vendors. Even when the key equipment which has a significant impact on system operation is failed, it cannot be repaired promptly due to budget restriction.

The equipment, the consumables, and the spare parts to be granted for this Follow-up Cooperation were selected, while considering those local circumstances and the procurement improvements by self-reliant efforts of RTA. The quantity of those goods was calculated, and the validity was confirmed. Furthermore, “List of Follow-up Cooperation Study Results” (Attachment-7) was made for sharing information with the counterpart, and the reconfirmation results to the RTA requests matter were described in parallel.

The outline of the Follow-up Cooperation Study result was explained to the implementing organization (RTA) when the Follow-up Cooperation Study was completed, and “Follow-up Cooperation Study Results List” was submitted, which was signed between RTA and the Team for a current confirmation. In addition, the Team also explained that all equipment described in the list is not final selection of equipment to be granted by the Follow-up Cooperation, and the Team will continue the analysis in Japan to prepare the report concerning the final selection of equipment. When prepared, the report will be forwarded to RTA for the final confirmation. This process was explained to RTA, and was understood by RTA.

3-2-2 Preparatory Study

The questionnaire had been sent to RTA before the Follow-up Cooperation Study began, and answers on the current state of the equipment were received by the Team.

The number of object equipment, the equipment that has been repaired by RTA, and the equipment that are currently out of order are summarized as follows.

Table 3-2-2-1 The Number of Failed / Degraded Equipment

No. of equipment	Studio equipment	899
	Transmission equipment	30
	Power supply/Air-conditioning equipment	62
No. of equipment repaired by RTA	Studio equipment	171/899 (19.0%)
	Transmission equipment	1/30 (3.3%)
	Power supply/Air-conditioning equipment	4/62 (6.5%)
No of failed/degraded equipment	Studio equipment	164/899 (18.2%)
	Transmission equipment	2/30 (6.7%)
	Power supply/Air-conditioning equipment	6/62 (9.7%)

The studio equipmet in failure and the deteriorated condition is shown below.

Table 3-2-2-2 The Contents of Failed / Degraded Studio Equipment

Video equipment	20/164 (12.2%)
Audio equipment	97/164 (59.1%)
** (ancillary goods such as mike cables)	** (76/164 (46.3%))
Monitor equipment	46/164 (28.1%)
Intercom equipment	1/164 (0.6%)

“Failed and/or Degraded Equipment” reported from RTA beforehand is shown Failed and/or Degraded equipment from RTA in Attachment-1 Selected Equipment List.

3-2-3 Situation of Object Facilities and Equipment in Kabul TV Station

(1) Situation of Building

The Kabul TV Station Building was constructed by the grant aid of Japan in fiscal year 1976, and complete repair works was executed by the Original Projects in fiscal year 2002 and 2003. The building is well maintained, cleaned, however, there is an inevitable deterioration by use of Building. Although dust is collected in the trench or in the system rack, it does not affect the performance of the equipment.

The current studio facilities/equipment of TV broadcasting Building is shown in Table 3-2-3.

Table 3-2-3 Kabul TV Station Studio Facilities

Room	Main equipment/Function	Remarks
Master control room/ News studio sub-control room	Master control system/ News studio sub-control system	
News studio	Studio for news program	Area: approx. 50 m ²
Telecine and VTR room	Telecine system	
Production studio	Studio for production	Area: approx. 100 m ²

Production studio sub-control room	Production studio sub-control system	
Editing room -1	A/B roll editing system/ 1 to 1 editing system	
Editing room-2-1/Announce studio	Announcer Studio/Editing system	
Editing room-2-2	HDTV editing system	
Editing room-3	A/B roll editing system	
Editing room-4	1 to 1 editing system (two sets)	

(2) Situation of Studio Equipment

1) Master Control System (Master Control Room)

The master control system has the function to switch the program signal from each studio, sub-control room, and non-linear editing system installed by RTA according to the program schedule to deliver the broadcasting program to the local TV transmission site via satellite link, to the Kabul TV transmission site via STL link, and to the broadcasting satellite. The equipment of this room is well maintained keeping the initial function and performance. However, the system operation is in a difficult situation to continue the broadcasting since there are no spare parts for the amplifier and converter of main signaling route of video and audio. Moreover, the failure of the video switch function has occurred because of the deterioration of parts such as push switches. To avoid broadcasting interruption, a routing switch was granted, and installed by the technical cooperation project to make a detour route.

The color monitors to monitor the video signal quality each point of the system are remarkably degraded in brightness, chromaticity and intensity.

2) News Studio/News Sub-control System

As for the main equipment (studio camera, video switcher, audio mixer, and studio lighting), news studio/news sub-control system is used to produce the news program, the lecture program related to religion, and the talk-show program, etc. The equipment of this room is well maintained keeping the initial function and performance. However, the system operation is in a difficult situation to continue the broadcasting since there is no spare parts for the equipment. The color monitors are remarkably degraded as well as the master control system. The lighting system of the studio is operating without trouble, however, the stock of spare lamp bottoms, and the trouble begins to appear in the program production.

3) Telecine Equipment

The telecine equipment is a device that converts the cine-film into the video signal for the TV. The equipment was provided by the grant aid of Japan 1976, and is still operating normally. The utilization rate of telecine equipment shows the tendency to decrease due to the digitization of broadcasting system.

Figure 3-2-3-1 shows the equipment arrangement of the master control/news sub-control room/news studio/telecine room.

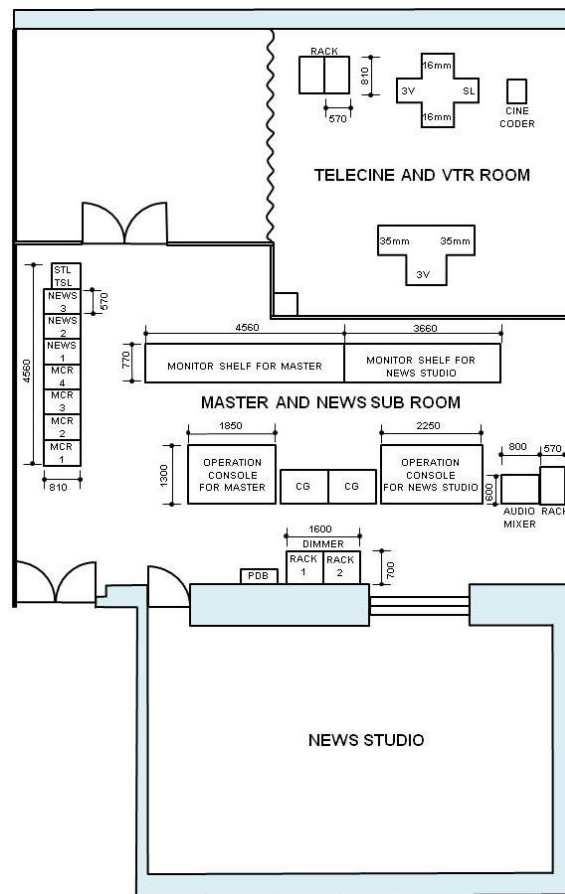


Figure 3-2-3-1 Master Control and News Sub-control Room/News Studio/Telecine Room Equipment Arrangement

4) Program Production Studio and Sub-control System

The program production studio and sub-control system are composed of the studio camera, video switcher, audio mixer, VTR and studio lighting, etc. to produce the news program and the talk show program, and so on. The equipment of this room is well maintained, keeping the initial function and performance. However, the system operation is in a difficult situation to continue the broadcasting since there is no spare parts for the equipment. The color monitors are remarkably degraded as well as the master control system. The lighting system of the studio is operating without trouble, however, the stock of spare lamp bottoms, and the trouble begins to appear in the program production.

Figure 3-2-3-2 shows the equipment arrangement of the program production studio and the sub-control room.

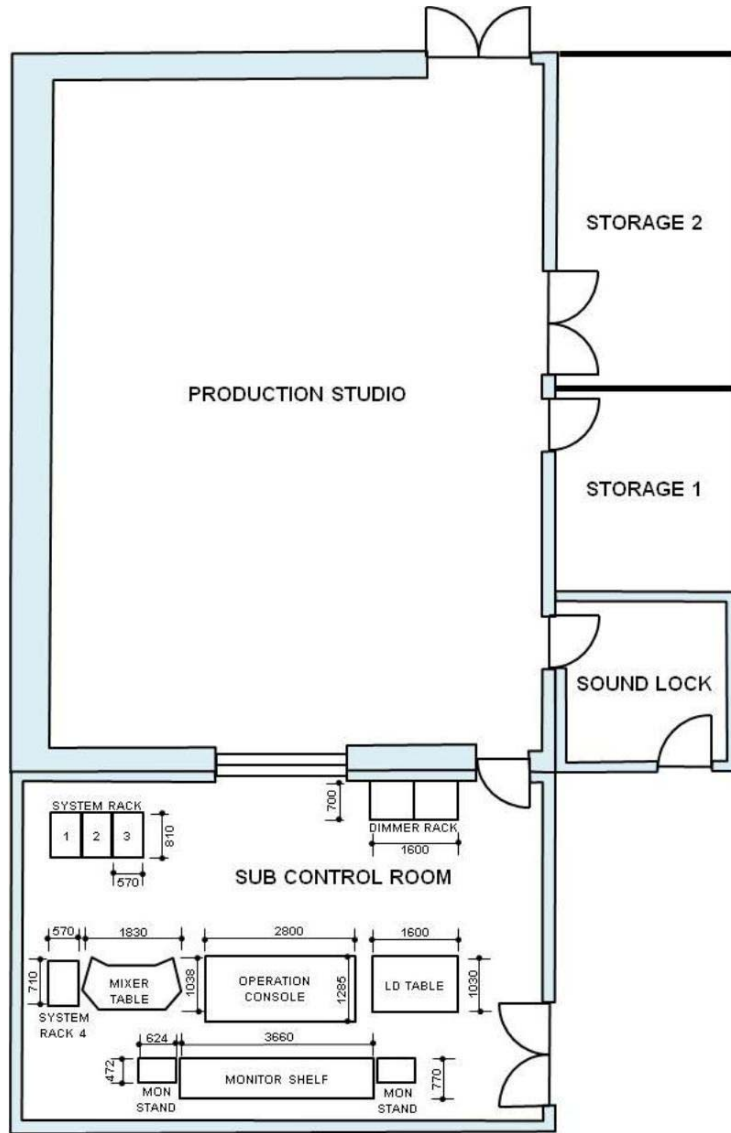


Figure 3-2-3-2 Program Production Studio and Sub-control Room Equipment Arrangement

5) Editing System

Two sets of A/B roll editing systems for editing VTR tape recorded by ENG team and four sets of 1 to 1 editing systems were granted by the Original Projects. However, one set of 1 to 1 editing system is out of order and two sets of A/B roll editing systems and three sets of 1 to 1 editing systems are currently operating. RTA mainly broadcasts programs recorded beforehand, thus the rate of operation of these editing systems is high, with the systems utilized efficiently.

The non-linear editing system using the personal computer had been purchased and operated by the self-reliant efforts of RTA, and the recorded program is transmitted from this system during assigned time period, especially in the night for 24 hours broadcasting.

The equipment arrangement of each editing room is shown below.

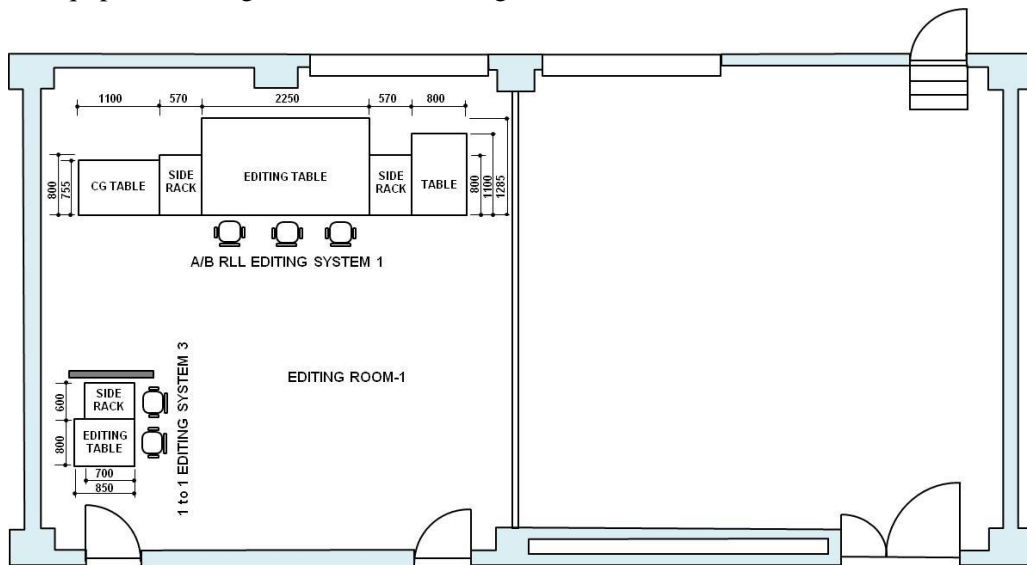


Figure 3-2-3-3 Equipment Arrangement of Editing Room-1

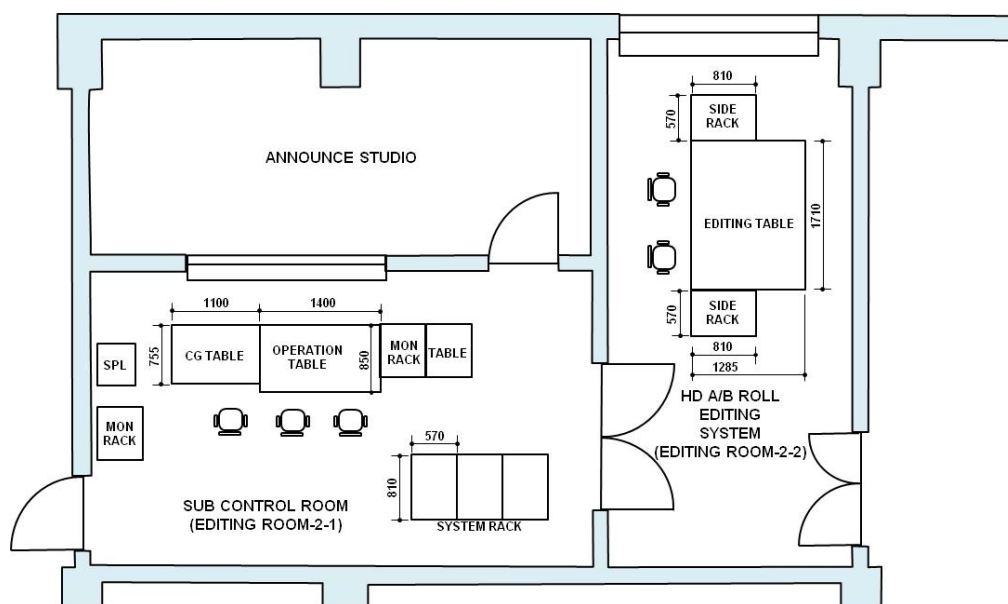


Figure 3-2-3-4 Equipment Arrangement of Editing Room-2-1 and Editing Room-2-2

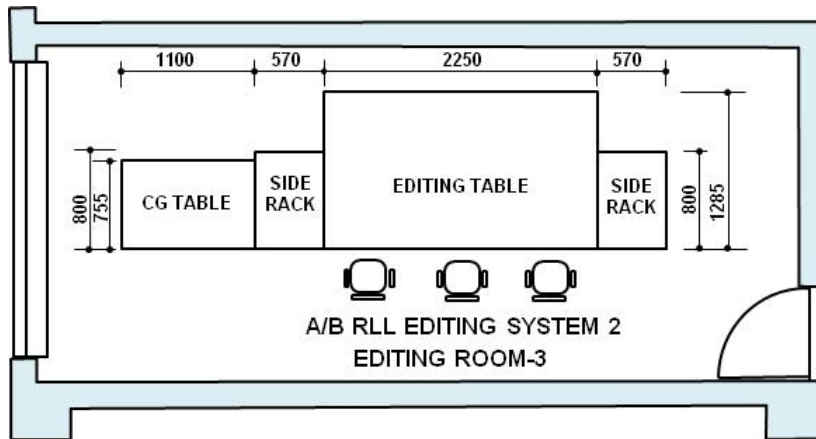


Figure 3-2-3-5 Equipment Arrangement of Editing Room-3

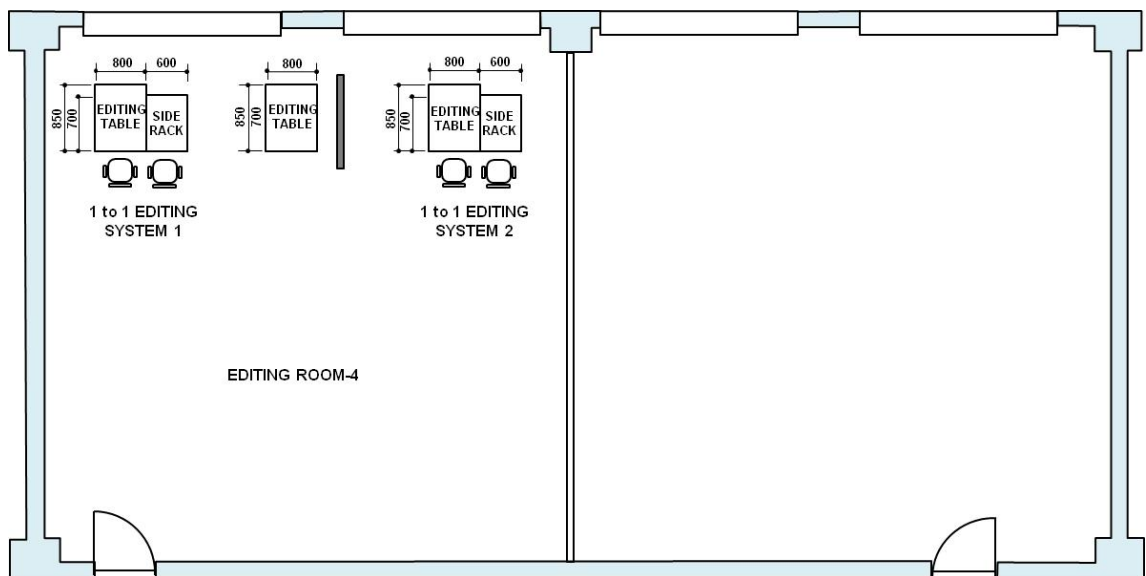


Figure 3-2-3-6 Equipment Arrangement of Editing Room-4

6) ENG Equipment

ENG equipment is mainly used for outdoor operation, and eight camcorders and associated equipment are being utilized. The drum running time of most of camcorders have already exceeded 5,000 hours, and the program production is hindered by the failure and performance degradation of the equipment. The microphones, portable lighting sets, and other relevant goods are remarkably deteriorated. Each cameraman maintains one set of equipment, and the equipment is kept in the lockable cabinet.

7) OB Van

OB Van is mainly used in the Kabul city, and also used for government-affiliated program recording in most cases. The mileage of OB Van is about 8,000km, and the vehicle is well maintained. The control system inside the OB Van is in a good condition and well maintained, and

the system is operating without major problem. However, some equipment and accessories are failed and/or degraded. The wear on the connection cables between the control system and video/audio equipment, the microphone cables, and some of the carrying cases are very severe due to the outdoor use, which need to be replaced. The program production is affected by the shortage of the lamps used for the lighting system, therefore, the adequate number of spare lamps shall be provided.

8) News Car

Three news cars granted by the Original Projects are well maintained and in good condition. The mileage of each car is approximately 5,500km. However, some equipment and accessories are failed and/or degraded due to frequent usage.

(3) Situation of Power Supply Facilities

1) Low Voltage Power Distribution System

The low voltage power distribution system in the Kabul TV Broadcasting Station is classified as the following two electric power systems.

(a) Electric power system supplied directly by station service transformer:

This system supplies electric power to the studio lighting equipment, air-conditioning facilities, power loads, indoor lighting, and outdoor lighting.

(b) Electric power system supplied through automatic voltage regulator (AVR, 100kVA):

This system supplies electric power to the broadcasting equipment that needs high quality steady power supply.

Each system line supplies power to each place from the building equipment room where the incoming and transforming facilities are installed via the power distribution board set up in several places in the broadcasting building through the indoor power supply cable/wire.

The only indoor power supply equipment which is the completely failed equipment is 100kVA AVR, and other equipment is operating normally. The equipment is well maintained by RTA. The failed equipment was repaired by RTA staff using the similar parts procured in the local market if the adequate parts had not been provided by the Original Projects to avoid power supply interruption.

IVR which has the same function as AVR was installed and operated in stead of failed AVR. Other power supply facilities are operating normally, and no particular problem exists.

It is presumed that the storage capacity of lead-acid storage batteries inside the UPS and 24V Rectifier & Battery equipment is decreased due to the higher temperature than 25°C in the non-air-conditioned environment of the set-up location, and due to the aged deterioration by eight years having passed.

2) Emergency Power Supply System

The automatic start board was procured from a local market as a tentative measure because automatic start/shut-down circuit board of 350kVA engine generator failed, the simple start circuit was made, and the automatic start/shut-down is enabled. Since the shutdown function at the abnormal state detection does not operate under the present situation, the automatic start/shut-down circuit board shall be restored to an original control function immediately. The diesel engine works normally, and no especial problem exists. It is necessary to renew the lead-acid storage battery for start/control circuit. The associated equipment such as the Primary/Generator Power Supply Switch Board, Power Distribution Board, Main Circuit Changeover Board, Fuel Tank, and Fuel Supply Line, etc. function normally.

(4) Situation of Air-conditioning Facilities

1) Central Air-conditioning Equipment

This equipment is being used for the air-conditioning of the program production studio, news studio, master/sub-control room, entrance lobby, scenery & props room, and first floor offices. The chiller facility, air-conditioning equipment, and heating boiler are operating normally, however, the chiller cooling water pump (P-2) and cold water pump (P-5) shall be replaced due to the water leakage through the degraded gasket. Moreover, one fan coil unit set up in the entrance is out of order and it is necessary to replace it.

The troubles that leaks from the hot water heater panel happened frequently, and the failed panels were replaced with the old panels manufactured in 1976, and were exchanged by the Original Projects in fiscal year 2002 and 2003 as a temporal measure. It is judged those panels shall be replaced to prevent the relapse of trouble since those panels are becoming superannuated.

2) Independent Air-conditioning Equipment

This equipment is a wall mounting heat pump type air-conditioner, and is being used for the editing room, film storage room. Most equipment is failed and/or degraded because there is no local agent who can repair and replace the components/parts for those conditioners manufactured in Japan. Several failed conditioners are left as they are, and shall be replaced with those which can be procured in the local market considering the after-sales maintenance.

One air-conditioner, locally procured by self-reliant efforts of RTA was installed in the room where the air-conditioner failed for the protection of broadcasting equipment.

(5) Situation of Commercial Power Supply

To verify the possibility of the causes of equipment fault due to the fluctuation of commercial power voltage and frequency drawn into the Kabul TV Broadcasting Station, the power quality of low voltage power supply line in the broadcasting building was measured with the following conditions.

1) Measuring Point:

Power supply room, PDB MCB45 Output, AC380V three-phase circuit (output line to 100kVA AVR)

2) Measuring Period:

Period -1 (Time Plotting-1): 2012/11/10 9:14 - 2012/11/11 8:13

Period -2 (Time Plotting-2): 2012/11/11 9:02 - 2012/11/12 9:01

Period -3 (Time Plotting-3): 2012/11/12 9:57 - 2012/11/13 8:36

3) Measuring Instrument:

PW3198 Power Supply Quality Analyzer (made of Hioki Electric Corporation)

9669 Clamp on Sensor (made of Hioki Electric Corporation)

PW9000 Connection Adaptor (made of Hioki Electric Corporation)

4) Parameter Setting of Measuring Instrument:

a) System Setting

Input Range: Three-phase, 600V, 100A

Measurement Channel: CH-1(R), CH-2(S), CH-3(T)

b) Event Setting

Voltage Swell: $380V \pm 10\%$

Voltage Dip: $380V \pm 10\%$

Power Interruption: 380V-90%

Frequency: $50 \pm 5\text{Hz}$

5) Measuring Result

The total time which measured voltage exceeded the nominal control range of AVR ($380V \pm 20\%$) was 8 minutes 44 seconds, and the power interruption was not recorded for the measurement period of three days.

The tendency of frequent occurrence of following phenomenon was observed.

- Phase imbalance even though open-phase was not recorded
- Voltage fluctuation of particular phase
- Voltage dip even though voltage swell were very few

It is judged that possibility of power feeding from the storage battery inside UPS is quite low since input voltage is regulated by AVR decreasing the voltage fluctuation of commercial power supply. The input voltage nominal control range of UPS is $380V \pm 15\%$, and it is presumed the input voltage fluctuation can be regulated in accordance to the measuring results. Since Kabul TV Station is located in the same area as facilities of embassy of the United States and the United Nations, a comparatively steady electric power is supplied with priority, however, the power failure happened frequently in the area besides the Kabul city.

To verify the power consumption of UPS and the back-up time, the electric power feeding from AVR to UPS was calculated using the data recorded by the Power Supply Quality Analyzer, and the calculation result is shown in < AVR Input Electric Power Calculation Results>(P.3-20) as time-series graph.

Maximum Input power to AVR was 43 kVA, and the majority of input power range to AVR under normal operation was 20 to 25 kVA. The maximum actual load to UPS was 40 kVA, and average actual load to UPS was approximately 22 kVA taking the efficiency of AVR and UPS into account. The nominal back-up time of UPS for 75 kVA load is 5 minutes; hence, it is judged the current back-up time of UPS is 10 minutes or more even if the capacity decline of storage batteries due to the higher temperature than 25°C has been considered.

It is judged that the influence to the power supply facilities by lightning is limited because any device damage due to the lightning surge was not found by the visual inspection, nor by the interview.

< Recorded Data on Power Supply Quality Analyzer >

a) Period -1 (2012/11/10 9:14 -2012/11/11 8:13)

- Maximum Voltage at period covered: 407.1 V (380V+7%)
- Minimum Voltage at period covered: 219.5 V (380V-42%)
- Maximum Frequency at period covered: 51.3 Hz (50+1.3Hz)
- Minimum Frequency at period covered: 48.8 Hz (50-1.2Hz)

<Time Plot Data-1>



Event at period covered

Event item	Channel	No. of Event	Longest Period	Total Period	Worst Value
Dip	CH-3	58	41 min 07 s	3 h 55 m 36 s	219.5 V

b) Period -2 (2012/11/11 9:02 -2012/11/12 9:01)

- Maximum Voltage at period covered: 393.7 V (380V+4%)
- Minimum Voltage at period covered: 290.3 V (380V-24%)
- Maximum Frequency at period covered: 50.6 Hz (50+0.6Hz)
- Minimum Frequency at period covered: 48.9 Hz (50-1.1Hz)

<Time Plot Data-2>



Event at period covered

Event item	Channel	No. of Event	Longest Period	Total Period	Worst Value
Dip	CH-1	40	36 min 05 s	4 h 21 m 54 s	290.3 V
Dip	CH-3	2	1 s	2 s	337.7 V

c) Period -3 (2012/11/12 9:57 -2012/11/13 8:36)

Maximum Voltage at period covered: 393.7 V (380V+4%)

Minimum voltage at period covered: 309.0 V (380V-19%)

Maximum Frequency at period covered: 50.7 Hz (50+0.7Hz)

Minimum Frequency at period covered: 48.8 Hz (50-1.2Hz)

<Time Plot Data-3>

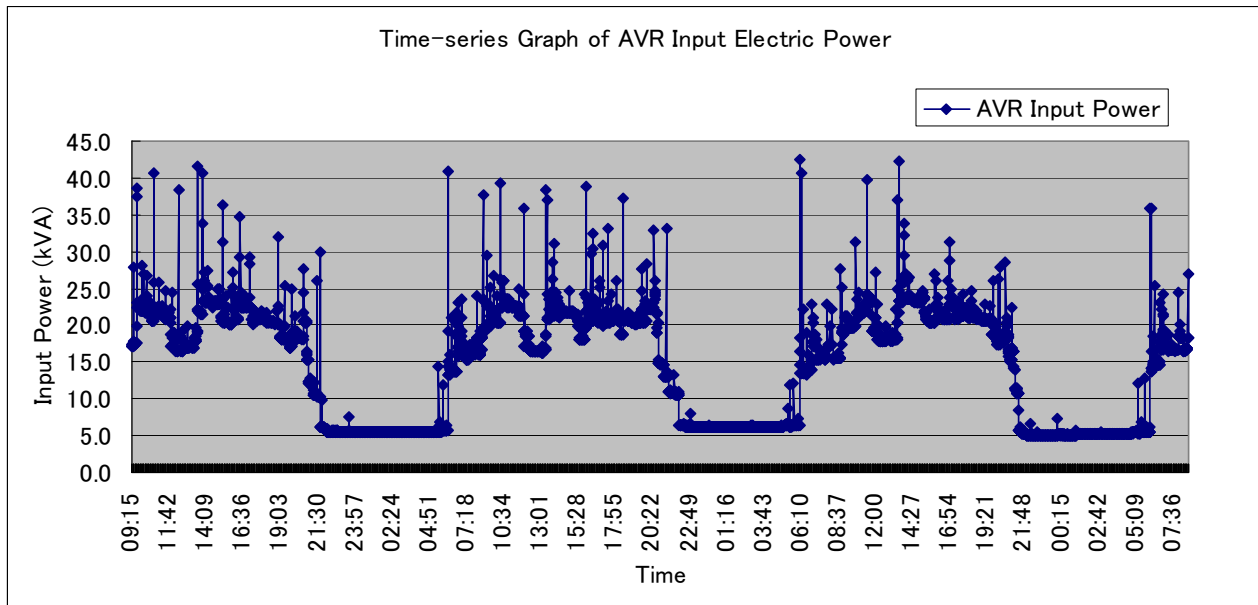


Event at period covered

Event item	Channel	No. of Event	Longest Period	Total Period	Worst Value
Dip	CH-1	54	29 min 52 s	6 h 45 m 30 s	320.0 V
Dip	CH-3	4	32 s	59 s	325.6 V

< AVR Input Electric Power Calculation Results >

The time-series graph calculated from recorded data of Power Supply Quality Analyzer for the input electric power of AVR is shown below. Maximum power was 43 kVA, and the majority of power range was 20 to 25 kVA.



(6) Environment Condition of Equipment/System

The broadcasting equipment is a precision instrument, and appropriate air-conditioning management is necessary to prevent the dewfall from being generated by a rapid change in humidity to keep the indoor temperature in a permissible range of temperature of the equipment. Environment condition of equipment/system was measured under the following conditions with a digital measuring instrument that was able to record the change in the temperature and humidity for a long period to confirm the ability and effect of existing air-conditioning facilities.

1) Measuring Point:

Monitor shelf of master control room

Monitor shelf of production studio sub-control room

2) Measuring Period:

Master control room: 2012/11/06 16:09 - 2012/11/10 19:49

Production studio sub-control room 2012/11/06 16:08 - 2012/11/10 19:53

3) Measuring Instrument:

TR-72Ui Thermo Recorder (made of T&D Corporation)

4) Parameter Setting of Measuring Instrument:

Channel 1: Temperature survey (0-50°C)

Channel 2: Humidity measurement (10-95%RH)

5) Measuring Result

The air-conditioning system of facilities concerned is composed of the cooling equipment and heating equipment; the heating equipment had not been operating. The temperature in the studio was in the range of 17-26°C and was steady because of heat dispersion of equipment etc. though the outside temperature for the measurement period was about 0-15°C. The recorded humidity was in the range of 9-52%RH, and it is judged that there is no problem to equipment.

< Recorded Data on Thermo Recorder >

a) Master control room (2012/11/06 16:09 -2012/11/10 19:49)

Highest Temperature at period covered: 26.6°C

Lowest Temperature at period covered: 17.4°C

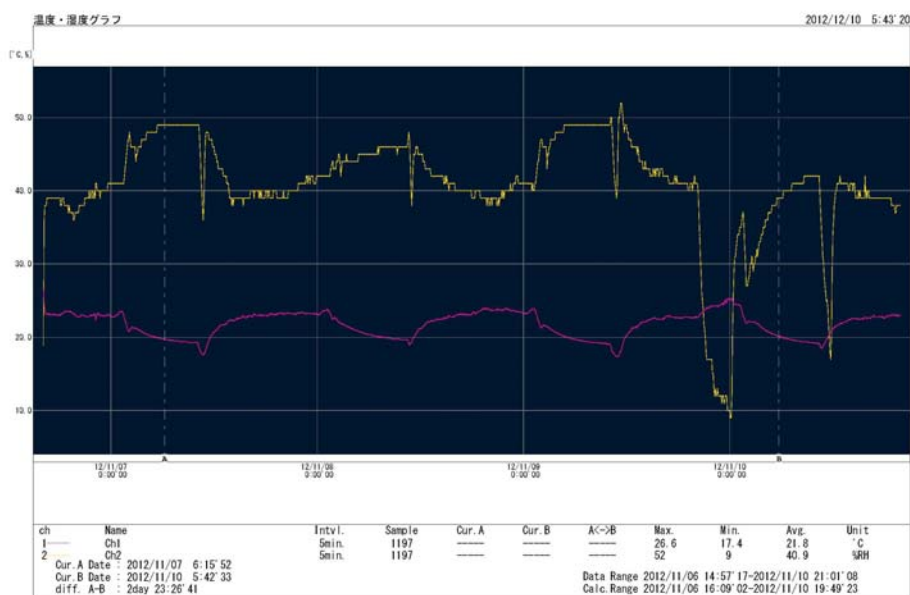
Average Temperature at period covered: 21.8°C

Highest Humidity at period covered: 52%RH

Lowest Humidity at period covered: 9%RH

Average Humidity at period covered: 40.9%RH

<Time Plot Data>



b)

Production studio sub-control room (2012/11/06 16:08 -2012/11/10 19:53)

Highest Temperature at period covered: 26.2°C

Lowest temperature at period covered: 20.3°C

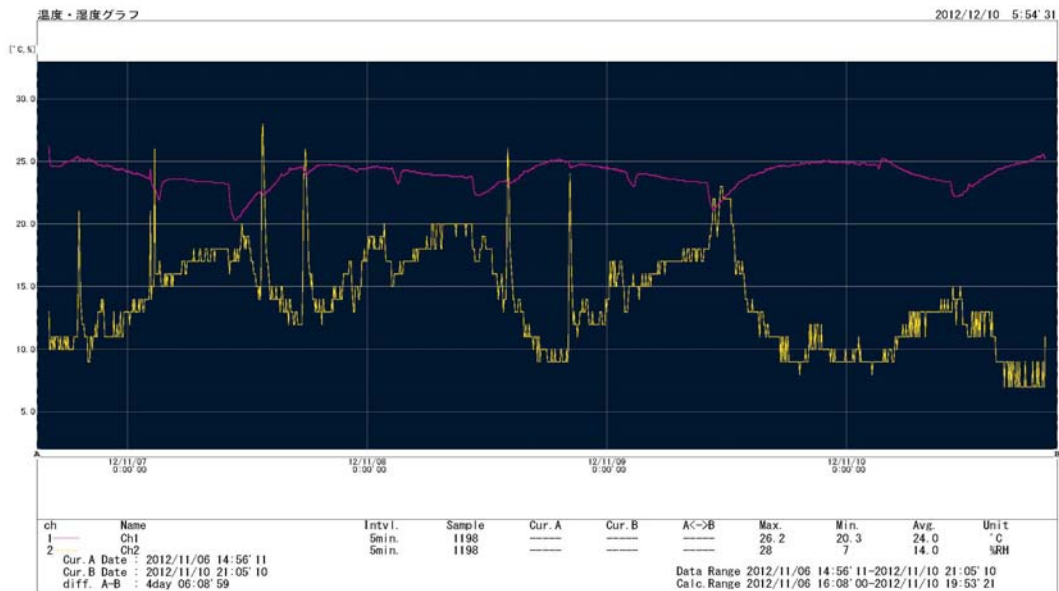
Average temperature at period covered: 24.0°C

Highest Humidity at period covered: 28%RH

Lowest Humidity at period covered: 7%RH

Average Humidity at period covered: 14.0%RH

<Time Plot Data>



3-2-4 Situation of Object Facilities and Equipment of Kabul TV Transmission Site

(1) Situation of Building

Kabul TV Transmission Site at Asmai Mountain constructed by the grant aid of the Japan in fiscal year 1976, and newly re-constructed by the Original Projects in fiscal year 2002 and 2003. The building is well maintained, cleaned, however, there is an inevitable deterioration by use of Building. The facilities have the same arrangement and composition of the Original Projects.

The facilities/equipment of TV Transmission Site are shown in Table 3-2-4.

Table 3-2-4 Kabul TV Transmission Site Facilities

Room	Main equipment/Function	Remarks
Transmitter room	TV transmission equipment	Area: approx. 56m ²
Emergency generator room	Emergency generator/ Power supply facilities	Area: approx. 56m ²
Monitoring room	On-air monitoring, Desk work	
Kitchen	The staff's cooking and meal	
Night-duty room	The staff's staying	
Lavatory and wash room	Lavatory, washroom, and shower	
Storage	Equipment storage	
Power facilities room	Transformer and switchboard	Annex Building
Water tank room	Water receiving tank	Annex Building
Guard room	Guard room	Annex Building

(2) Situation of transmission equipment

2kW VHF TV transmitters are quite well maintained, and still keep the initial performance. The equipment room and equipment are cleaned up, and the temperature management in the equipment room is done appropriately. There is neither damage nor degradations such as with antennas and feeders, and the stable operation can be expected so far.

The maintenance is done well as for PIE, measuring instrument rack, the STL/TSL equipment, and FPU equipment, and there is no problem found regarding the operation, though the degradation and trouble of the audio monitor and air monitor (color television) were found.

Figure 3-2-4 shows the equipment arrangement of the transmission room.

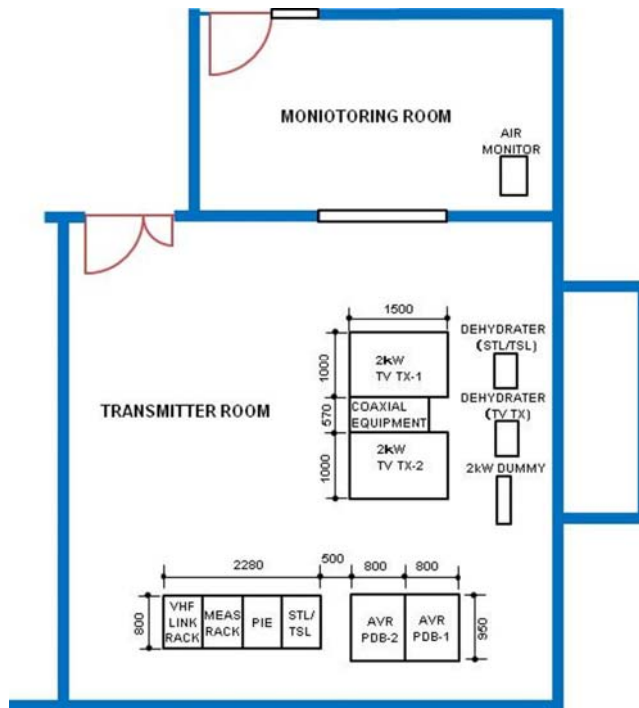


Figure 3-2-4 Equipment Arrangement of Transmission Room

(3) Situation of Power Supply Facilities

In the equipment room where the cleaning is complete, the power supply equipment provided by the Original Projects such as the high-tension incoming and transforming equipment, the insulation transformer, AVR, emergency generator, and power distribution boards were operating normally. It is judged the operation of the emergency generator is normal, and no abnormal rotation sound and/or vibration were observed.

In the original design, the power feeding to the TV transmitter will interrupt about 30 to 40 seconds when the commercial power failure starts until the emergency generator is activated, and the TV

broadcasting is interrupted accordingly. The back up UPS is set up by RTA to prevent this phenomenon, however, the backup time is insufficient and the update of UPS is recommended.

(4) Situation of Air-conditioning Facilities

The heat pump type independent air-conditioners are operating, and one in three is out of order. The alternative air-conditioner locally procured by RTA is set up. Other equipment such as electric heaters is operating normally.

Two water-feed pumps were cracked due to the freezing in winter, and they are being used with tentative treatment. It is necessary to replace and take the measures to prevent the freezing.

(5) Situation of Commercial Power Supply

To verify the possibility of the causes of equipment fault due to the fluctuation of commercial power voltage and frequency drawn into the Kabul TV Transmission Site, the power quality of low voltage power supply line in the broadcasting building was measured with the following conditions.

1) Measuring Point:

Power supply room MDB-2 MCCB Output (TV Transmitter-1)
AC380V three-phase circuit (output line to AVR & PDB-1)

2) Measuring Period: 2012/11/13 10:07 - 2012/11/15 10:06

3) Measuring Instrument:

PW3198 Power Supply Quality Analyzer (made of Hioki Electric Corporation)
9669 Clamp on Sensor (made of Hioki Electric Corporation)
PW9000 Connection Adaptor (made of Hioki Electric Corporation)

4) Parameter Setting of Measuring Instrument:

a) System Setting

Input Range: Three-phase, 600V, 100A
Measurement Channel: CH-1(R), CH-2(S), CH-3(T)

b) Event Setting

Voltage Swell: 380V+10%
Voltage Dip: 380V-10%
Power Interruption: 380V-90%
Frequency: 50±5Hz

5) Measuring Result

The power interruption was not recorded for the measurement period of three days, and the voltage fluctuation was within the nominal control range of AVR (380 V +20% -30%). The tendency of frequent occurrence of phase imbalance by voltage fluctuation of particular phase was observed. It is judged that the input voltage fluctuation did not affect the broadcasting system in accordance to the measuring results. The power failure happened frequently in the some area of Kabul city; however, it

is presumed that a comparatively steady electric power is supplied with priority to the Kabul TV Transmission Site since the martial facilities are located in the same area.

It is judged that the influence to the power supply facilities by lightning is limited because any device damage due to the lightning surge was not found by the visual inspection, nor by the interview.

< Recorded Data on Power Supply Quality Analyzer >

Maximum Voltage at period covered: 421.0 V (380V+11%)

Minimum Voltage at period covered: 264.4 V (380V-30%)

Maximum Frequency at period covered: 51.0 Hz (50+1Hz)

Minimum Frequency at period covered: 48.7 Hz (50-1.3Hz)

<Time Plot Data>



Event at period covered

Event item	Channel	No. of Event	Longest Period	Total Period	Worst Value
Dip	CH-1	9	2 m 45 s	2 m 47 s	297.3 V
Dip	CH-2	87	42 m 30 s	1 h 54 m 8 s	264.4 V
Swell	CH-3	5	47 m 59 s	1 h 18 m 35 s	421.0 V

(6) Environment Condition of Equipment/System

The operational temperature range of TV transmitter is 0 to 45°C, and the range of a permissible temperature is wide compared with the studio equipment. Therefore, specific air-conditioning equipment is unnecessary. In addition, the exhaust system of transmitter heat dispersion is installed, and air-conditioning facilities are set up for the associated equipment such as measuring instruments. It is judged the air-conditioning facilities have sufficient capability and redundancy at present though one in three is out of order. Moreover, one air-conditioner was locally procured and installed by RTA. Environment condition of equipment/system was measured under the following conditions with a digital measuring instrument that was able to record the change in the temperature and humidity to confirm the ability and effect of existing air-conditioning facilities.

1) Measuring Point:

Transmitter room VHF TV transmitter

2) Measuring Period: 2012/11/15 14:46 to 2012/11/15 16:05

3) Measuring Instrument:

TR-72Ui Thermo Recorder (made of T&D Corporation)

4) Parameter Setting of Measuring Instrument:

Channel 1: Temperature survey (0-50°C)

Channel 2: Humidity measurement (10-95%RH)

5) Measuring Result

The recorded temperature is about 23°C, and humidity is about 7%RH. It is judged that environment condition in the facilities is adequate, and no problem is observed.

< Recorded Data on Thermo Recorder >

Highest Temperature at period covered: 23.4°C

Lowest Temperature at period covered: 21.9°C

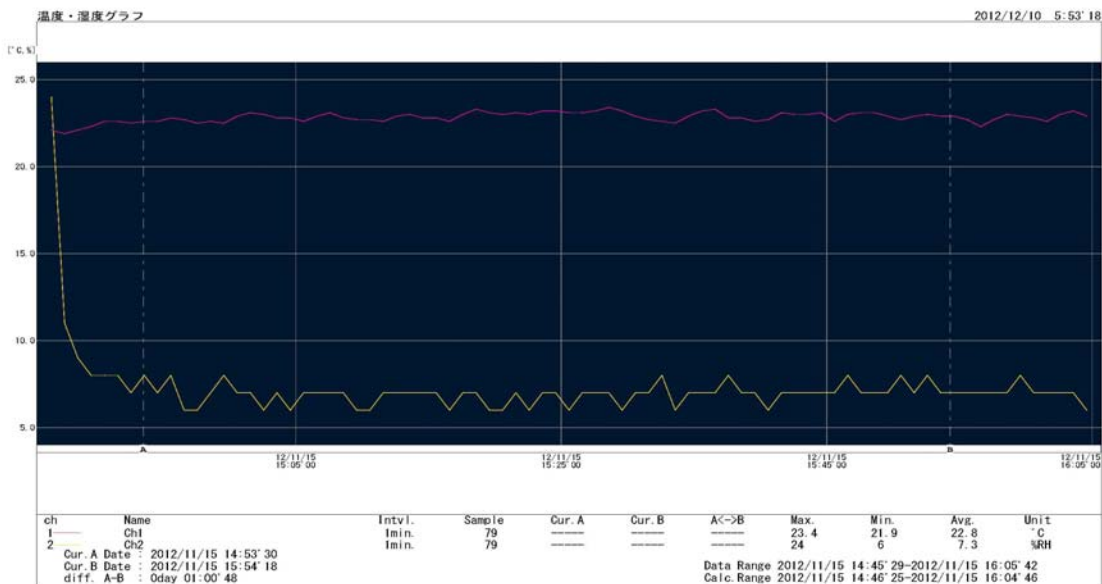
Average Temperature at period covered: 22.8°C

Highest Humidity at period covered: 24%RH

Lowest Humidity at period covered: 6%RH

Average Humidity at period covered; 7.3%RH

<Time Plot Data>



3-2-5 Situation of Object Facilities and Equipment of Kabul TV Repeater

(1) Situation of Building

The TV Repeater was set up in the penthouse of Intercontinental Hotel by the Original Projects in fiscal year 2002 and 2003 because there were a lot of dead zones for TV signal reception in Kabul where ups and downs are intense, the hill and mountain become the obstruction against the propagation. Since the penthouse was a harsh environment where the sealing is insufficient and similar to outdoor, the repeater equipment was installed in the outdoor type shelter.

The receiving and transmitting antennas for the repeater is being mounted on the existing triangular mast (about 8m) that exists in the rooftop of penthouse.

(2) Situation of Repeater Equipment

10W VHF TV Repeater equipment is well maintained and is keeping the initial performance. The repeater shelter was gunned with firearms such as shotguns when this hotel is attacked by the terrorist in June 2011, and the exhaust fan was damaged. The damaged fan was replaced, and it is operating normally.

There is neither damage nor degradations such as antennas and feeders, and the stable operation can be expected so far.

Figure 3-2-5 shows the equipment arrangement of the TV repeater equipment.

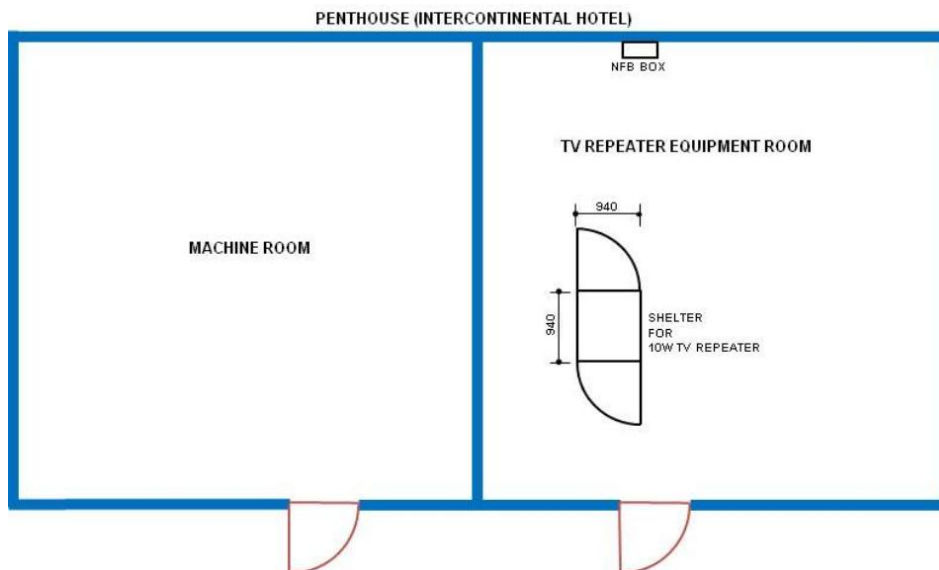


Figure3-2-5 Equipment Arrangement of TV Repeater Equipment Room

(3) Situation of Power Supply Facility

The commercial power supply is fed from the existing switchboard of the hotel, and backed up by UPS in the equipment shelter. The capacity of storage battery inside UPS is decreased due to the aged

deterioration, however, it is judged the UPS that initially has the back up capacity for 60 minutes with 1,050W load can still supply the electric power for 90 minutes or more since the power consumption of repeater shelter is only 200W. No specific deficiencies were found on the power supply part and feeding power system, hence, the stable operation can be expected.

(4) Situation of Air-conditioning Facilities

The operating temperature range of TV repeater is 0 to 45°C, and operating temperature range of UPS is 0 to 40°C. The altitude of Kabul is 1,800m, and the monthly averaged maximum temperature in July for a time period spanning the past 22 years is 26.2°C (source: NASA). It is judged that air-conditioning facilities such as air-conditioner is not required because ambient temperature is sufficiently low, power consumption is approximately 200W only, and heat dispersion from equipment is exhausted by the fan.

3-2-6 Situation of TV Coverage

A lot of areas where TV signal strength is not sufficient value exist near the Kabul TV Transmission Site because Kabul is located in the mountainous region, and has steep hills and mountains in the city. Measures against these dead zones were examined in the basic design of Original Projects, and came to relieve the dead zones by the TV repeating system that can cover the some of the dead zones concerned. The TV Repeater was installed in the penthouse of Intercontinental Hotel where various conditions necessary for the TV Repeater installation/operation were satisfactory as a result of the coordination with RTA. However, the other repeaters to solve the dead zones could not be realized due to the difficult situations such as the adequate place for propagation, power supplies, and construction of building/shelter. Therefore, the considerable numbers of dead zones still exist in the city.

It is judged that TV coverage area is almost same as initial value because new construction of high building and structures that may obstruct the propagation has not been built and the meter reading value of transmitting power is keeping the same value as the Original Projects. The field strength measurement at the various points that the Asmai Mountain Transmission Site and Intercontinental Hotel Repeater Site are covering was not able to be executed by reason of the critical safety situation in Kabul.

3-2-7 Problems and Measures of Troubled Equipment

The operation status verification of the equipment provided under the Original Projects in fiscal year 2002 and 2003 has been executed for all goods including the troubled equipment reported from RTA beforehand.

The equipment that shall be replaced due to the aged deterioration and the judgement on equipment as having trouble from the result of site investigation are shown in “Trouble and Deterioration equipment” in Attachment-1 Selected Equipment List.

3-3 Operation Situation of Implementing Organization

3-3-1 Maintenance Management Organization Structure

The each section of Technical Department is taking charge of the operation and maintenance works including the repair of the broadcasting equipment. Technical Department is composed of 292 staff members with six divisions under control of the director.

Figure 3-3-1 RTA Technical Department Organization Structure shows the system of the maintenance management as of November 2012.

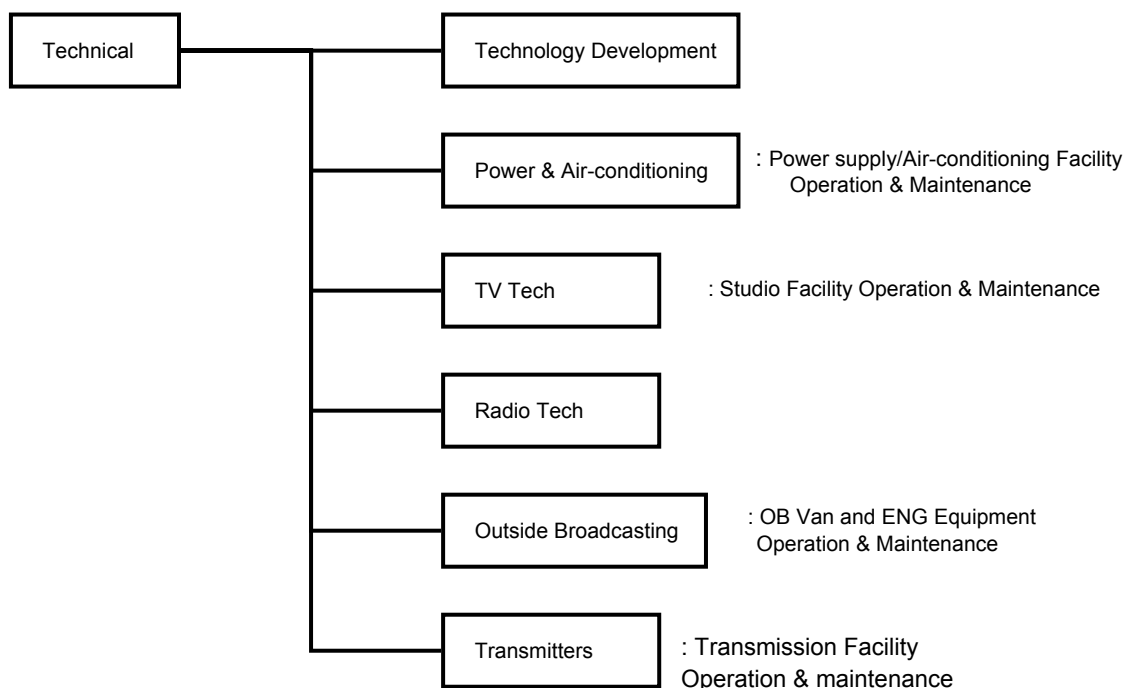


Figure 3-3-1 RTA Technical Department Organization Structure

3-3-2 Maintenance Engineer

Table 3-3-2 Project Equipment Maintenance Engineer Table shows the maintenance engineer who is taking charge of the operation and maintenance of equipment/system provided by the Original Projects (As of November, 2012).

Table 3-3-2 Project Equipment Maintenance Engineer Table

Section / Official title / In-charge	Length of service	Academic background	Training results
TV studio / General manager / Maintenance	26	14th Grade	JICA technical assistance project, Panasonic
TV studio / Kabul site Manager / Maintenance	32	12th Grade	JICA technical assistance project

TV studio / Local site Manager / Maintenance	20	12th Grade	JICA technical assistance project
TV studio / Engineer / Maintenance	26	12th Grade	JICA technical assistance project
TV studio / Engineer / Maintenance (Audio)	20	12th Grade	JICA technical assistance project
TV studio / Engineer / Maintenance (Video)	4	14th Grade	JICA technical assistance project
TV studio / Engineer / Maintenance (Camera)	30	14th Grade	JICA technical assistance project
TV studio / Engineer / Maintenance (CCU)	4	14th Grade	
TV & RADIO transmission / General manager/ System	20	Assistant engineer	
TV transmission / Chief engineer	20	Assistant engineer	
TV transmission / Manager	10	Assistant engineer	
TV transmission / Engineer / STL	36	12th Grade	JICA technical assistance project
TV transmission / Manager / Maintenance	28	Communication university	
TV transmission / Engineer / Maintenance	6	14th Grade	
OB Van & ENG / Head / Maintenance	24	Graduate school	INDIA, UNISCA, AIBD, JICA
OB Van & ENG / Engineer-1 / Maintenance (OB Van)	32	Graduate school	UNISCA, AIBD
OB Van & ENG / Engineer-2 / Maintenance (OB Van)	28	Assistant engineer	UNISCA, AIBD
OB Van & ENG / Engineer-3 / Maintenance (OB Van)	20	Assistant engineer	
OB Van & ENG / Engineer / Maintenance (ENG)	22	Assistant engineer	
Power Supply & Air-conditioning / Deputy General manager	23	12th Grade	Jafferl Brothers
Power Supply & Air-conditioning / Manager / System maintenance	20	Engineer (Electricity)	JICA technical assistance project

3-3-3 Method of Maintenance Management

(1) Routine Check and Maintenance

The routine check and maintenance are performed at the following cycles.

- 1) Studio equipment: since the equipment is always being operated, the routine check and maintenance that interrupt the broadcasting are not executed.
- 2) Power supply and air-conditioning facilities: Routine check and cleaning are executed twice a week.
- 3) Transmission equipment: Routine check and cleaning are executed once a week.

However, the results of routine check and maintenance have not been recorded and registered for all the equipment.

(2) Response to Trouble and Failure

When the trouble of equipment is found by the operator, it is sent to the person in charge of maintenance (the manager of concerned department described in Figure 3-3-1), and the repair works will be done. Most of the equipment is repaired in the TV station because there is no agent/service center who can repair the broadcasting equipment in Afghanistan, and a large amount of expenditure is needed in case the repair is ordered to agents in foreign countries. Manuals used for the repair works are stored in the cabinet in the maintenance room. When the spare parts stocked are necessary for the repair,

the person in charge of maintenance decides the delivery from the storage, and the repair will be done. If the spare parts are out of stock, it will be newly procured. The budgeting for repair expenses are made every fiscal year, however, the critical condition is continued since the amount is insufficient to maintain the broadcasting equipment and system. The amount expended as purchase expense for spare parts/consumables in fiscal year 2011 was 43,303 USD (about 3.4 million Japanese yen). Some failed broadcasting equipment is left unrepaired, in some cases, the parts of the equipment were removed and reused for the repair works. The repaired equipment is returned to the section where it is owned. However, neither the repair request log nor the repair log is made for the equipment.

The flowchart of repair works is shown in Figure 3-3-3 Failure/Repair Works Flowchart.

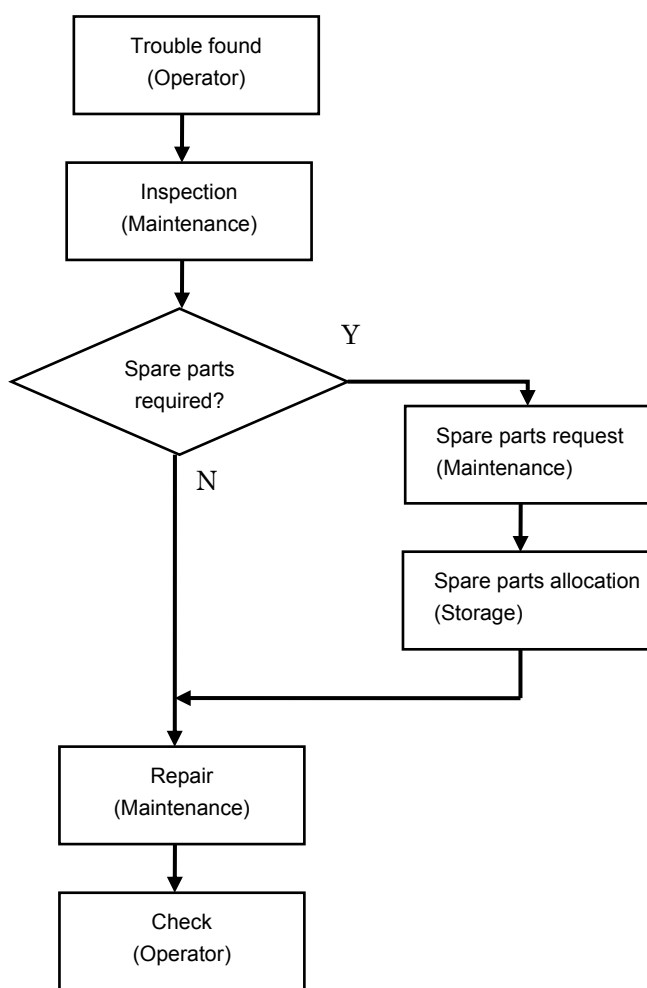


Figure 3-3-3 Failure/Repair Works Flowchart

3-3-4 Situation of Spare Parts/Consumables

The detailed verification for the spare parts/consumables was not able to be done because the storage location had been changed while executing the spare parts inventory of studio equipment and

registration to MMP. According to RTA staff, the spare parts/consumables delivered by the Original Projects were mostly consumed in the repair. The majority of spare parts that remain at the present are the ones granted through the technical cooperation project.

The spare parts of the Kabul TV Transmitting Site and TV Repeater Site were being kept in the transmitter room, and the investigation was conducted.

The result of the site investigation is shown in Table 3-3-4 List of Spare Parts/Consumables.

Table 3-3-4 List of Spare Parts/Consumables

Category	Object Equipment	Spare Item	Q'ty
Equipment for Studio	DVW-A500P VTR	Spare board APR-1(1-648-534-16)	2
Equipment for Studio	DVW-A500P VTR	Spare board VPR-1(1-648-532-19)	2
Equipment for Studio	DVW-A500P VTR	Spare board DIF-16(A-8275-139)	2
Equipment for Studio	DVW-A500P VTR	Inner drum assy. (A-8260-687-D)	15
Equipment for Studio	DVW-A500P VTR	Lining assy. (X-3717-205-1)	50
Equipment for Studio	DVW-A500P VTR	DC fan (1-698-785-5)	15
Equipment for Studio	DVW-A500P VTR	Arm assy. Cleaning (X-3167-053-2)	30
Equipment for Studio	DVW-A500P VTR	Arm assy. pinch (X-3167-054-8)	30
Equipment for Studio	DVW-A500P VTR	CTL head (8-825-554-84)	30
Equipment for Studio	DVW-A500P VTR	Filter (3-182-649-01)	26
TV Transmitter	2kW VHF TV transmitter	Audio modulation board (HPB-3101)	1
TV Transmitter	2kW VHF TV transmitter	Analog-digital converter board (HPB-3102)	1
TV Transmitter	2kW VHF TV transmitter	Digital video equalizer board (HPB-3103)	1
TV Transmitter	2kW VHF TV transmitter	Video modulation board (HPB-3104)	1
TV Transmitter	2kW VHF TV transmitter	IF amplification/linearity equalizer board (HPB-3105)	1
TV Transmitter	2kW VHF TV transmitter	VHF converter board (HPB-3106)	1
TV Transmitter	2kW VHF TV transmitter	Synthesizer board (HPB-3108)	1
TV Transmitter	2kW VHF TV transmitter	Stabilized power supply (HPB-3109)	1
TV Transmitter	2kW VHF TV transmitter	Fan for exciter (custom made)	1
TV Transmitter	2kW VHF TV transmitter	Stabilized power supply (HPB-3109)	1
TV Transmitter	2kW VHF TV transmitter	Stabilized power supply for PA (56A50VPS:NJD-4593)	1
TV Transmitter	2kW VHF TV transmitter	Video power amplifier (V1200GH)	1
TV Transmitter	2kW VHF TV transmitter	Audio transmission amplifier (V600GH)	1
TV Transmitter	Program Input Equipment	Video distribution amplifier (TAD-201)	1
TV Transmitter	AVR	50A AC ammeter (ACF-12NR)	1
TV Repeater	10W TV Repeater	Transmission converter board (TCM-3000)	1
TV Repeater	10W TV Repeater	Reception converter board (NI TCXO)	1

TV Repeater	10W TV Repeater	IF amplification board (IAM-3000)	1
TV Repeater	10W TV Repeater	10W electric power amplification board (PAM-3010V)	1
TV Repeater	10W TV Repeater	Stabilized power supply (NJD-4289)	1

3-3-5 Equipment for Maintenance

The portable type measuring instruments are being used for the usual routine check and repair works, however, the desk top type measuring instruments that need a complex manipulation are not always used since, according to RTA staff, English manuals require reading, comprehension skills and the operation training of measuring instruments had not been conducted sufficiently when the Original Projects was executed. Therefore, additional training for the oscilloscope that is frequently used for their works has been conducted in the technical cooperation project implemented by JICA, and said measuring instrument is now being practically used in the maintenance room.

Moreover, the jigs for the adjustment and repair of VTR are granted by the said technical cooperation project.

The Follow-up Cooperation Study result of equipment for maintenance is shown in Table 3-3-5 List of Maintenance Equipment.

Table 3-3-5 List of Maintenance Equipment

Object equipment	Instrument/Tools for Maintenance	Q'ty	Remarks
Power supply/Air conditioning equipment	Clamping meter (3282)	1	
Power supply/Air conditioning equipment	Phase sequence indicator (3126)	1	
Power supply/Air conditioning equipment	Mega ohm meter (321344)	1	
Power supply/Air conditioning equipment	Sound level meter (LA1210)	1	
Power supply/Air conditioning equipment	Digital thermometer/sensor (3441/9472)	1	
Power supply/Air conditioning equipment	Tool set	1	
Equipment for Studio	Video analyzer (VSA-B10)	1	
Equipment for Studio	Analog TV signal generator (TG5612)	1	
Equipment for Studio	Analog oscilloscope (V-1585)	1	
Equipment for Studio	Digital oscilloscope (TDS3052B)	2	
Equipment for Studio	Audio analyzer (AM50B)	1	
Equipment for Studio	Digital TV signal generator (TG2000)	1	
Equipment for Studio	Tool set	1	
Equipment for Studio	Jig for VTR (J-6001-830-A)	1	
Equipment for Studio	Jig for VTR (J-6325-530-A)	1	
Equipment for Studio	Jig for VTR (J-6087-000-A)	1	
Equipment for Studio	Jig for VTR (J-6080-029-A)	1	

Equipment for Studio	Jig for VTR (J-6086-570-A)	1	
Equipment for Studio	Jig for VTR (J-6251-090-A)	1	
Equipment for Studio	Jig for VTR (J-6323-500-A)	1	
Equipment for Studio	Jig for VTR (J-6323-420-A)	1	
Equipment for Studio	Jig for VTR (J-6323-430-A)	1	
Equipment for Studio	Jig for VTR (J-6252-510-A)	1	
Equipment for Studio	Jig for VTR (J-6269-800-A)	1	
Equipment for Studio	Jig for VTR (J-6269-810-A)	1	
Equipment for Studio	Jig for VTR (J-6320-870-A)	1	
Equipment for Studio	Jig for VTR (J-6320-880-A)	1	
Equipment for Studio	Jig for VTR (J-6322-610-A)	1	
Equipment for Studio	Jig for VTR (J-6420-320-A)	1	
Equipment for Studio	Jig for VTR (J-6329-350-A)	1	
Transmission equipment (STL/TSL)	Spectrum analyzer (E4408B)	1	
Transmission equipment (STL/TSL)	Wattmeter (ML2437A)	1	
Transmission equipment (STL/TSL)	Frequency meter (R5373)	1	
Transmission equipment (STL/TSL)	Fixed attenuator (10063)	1	
Transmission equipment (STL/TSL)	Tool set	1	
Transmission equipment (TV TX)	Video signal generator (TG2000)	1	
Transmission equipment (TV TX)	Audio signal generator (AM50B)	1	
Transmission equipment (TV TX)	Oscilloscope (SS-7821)	1	
Transmission equipment (TV TX)	Frequency counter (MF-2412B)	1	
Transmission equipment (TV TX)	TV side band analyzer (261SVS)	1	
Transmission equipment (TV TX)	Envelope DeLay measuring instrument (TD20B)	1	
Transmission equipment (TV TX)	Spectrum analyzer (MS2683A)	1	
Transmission equipment (TV TX)	VHF power meter/sensor (ML2437A/MA2472B)	1	MA2472B sensor failure
Transmission equipment (TV TX)	VHF variable attenuator (TRA-112)	1	
Transmission equipment (TV TX)	Network analyzer (R3765CG)	1	
Transmission equipment (TV TX)	Digital clamping meter (CL255)	2	
Transmission equipment (TV TX)	Multi tester (73402)	2	
Transmission equipment (TV TX)	Electric field strength measuring instrument (ML524B)	1	Include Antenna & Tripod
Transmission equipment (TV TX)	Portable GPS(GPS76)	2	

3-3-6 Maintenance Management Trainings

The training for the operation and maintenance was executed by the JICA technical cooperation project as follows between 2011 and 2012.

The contents of the training for operation and maintenance are shown in Table 3-3-6 below.

Table 3-3-6 Contents of the Training for Operation and Maintenance

Training Purpose and Subject	No. of Trainees	Period
Operation and maintenance training of digital broadcasting equipment	50	1 month
OJT training of digital broadcasting equipment (1st session)	45	10 days
Training concerning procurement and repair arrangements	10	3 days
OJT training of digital broadcasting equipment (2nd session)	83	1 week
OJT training of digital broadcasting equipment (3rd session)	23	2 weeks
Operation and maintenance training of digital broadcasting equipment	20	1 month
Training for repair method of failure equipment for digital Betacam VTR	5	5 days
Digital video and audio equipment operation training	24	1 month
Operation and maintenance training of digital broadcasting equipment	14	10 days
Digital video and audio equipment operation training	30	22 days

3-4 Study on Repair and Procurement Plan

3-4-1 Situation of Local Agent and Procurement

The agent or trader shop that can handle the equipment, spare parts, and consumables are none at all in Afghanistan, which provides the professional broadcasting equipment, the power supply and air-conditioning equipment concerning to this Follow-up Cooperation Study. In addition, it is a situation where there is no service shop with advanced technological level which can repair and adjust the broadcasting equipment.

According to RTA staff, if the budget was obtained for the repair of important broadcasting equipment, it would be necessary to repair by sending it to manufacturer branch/agency in Dubai. The equipment with slight of failure is assumed to be repaired in own workshop.

The equipment of power supply and air-conditioning was repaired using the parts that are not genuine and procured in local market if the trouble of that equipment was not serious. The separation type air-conditioner other than the one made in Japan can be procured in the local market; however, it is judged that the original performance cannot be achieved by defective construction may happen.

3-4-2 Study on Procurement in Third Country

The survey was also carried out in neighbouring countries such as Pakistan (Karachi) and United Arab Emirates (Dubai) for possible procurement and dispatch of engineer.

The purpose of this survey was to confirm the availability of the equipment that requires construction and adjustment in Afghanistan and to find the method for stable maintenance system after this Follow-up Cooperation.

(1) Study on procurement circumstances in Pakistan (Karachi)

Most of transportation routes to Afghanistan come by way of Pakistan. Therefore Pakistan has a close relationship with Afghanistan in geography, history and economy. There are many private broadcasting companies providing service in Pakistan. Three major local agents professionally handling the equipment for studio can carry out projects by concluding a turnkey contract which includes designing system, equipment supply, construction, adjustment and inspection.

These agents expand their service for growing private broadcasting companies in Afghanistan. It came out that these three agents can supply equipment and dispatch engineers required for this Follow-up Cooperation. Beside these three agents, one additional agent who has provided service in Afghanistan was included in this survey.

The result of the survey on these four agents is shown in Table 3-4-2.

Table 3-4-2 Third Country Study in Karachi

	Item	Media Links	A&A Systems	Channel Tek	Jaffer Brothers
1	Established Year	1985	1998	2003	1948
2	Total No. of Employee	40	15	214	Approx.1,000 permanent staff
3	Headquarters	Karachi	Karachi	Karachi	Karachi
4	Branch office in Abroad	N/A	N/A	UAE	Tokyo, Kabul, Urumuqi
5	Line of Business Manufacturer	Importer – Distributer (A/V & Broadcast)	Broadcast System Integrators	System Integrators Distributor & Resellers of Professional & Broadcast equipment.	Total solution provides of ICT, Telco, Infra structure Projects, Agro services
6	Licence (Authorized Dealer, Supplier)	SONY, Panasonic etc.	N/A	SONY, EVERTZ, CRESTRON, EXTRON, MARSHAL, CLEARCOM, LIBEC, CANARE, DATAVIDEO	Komatsu, HP, CISCO, Oracle, Emerson
7	Service Center, Repair Shop	Service Center for SONY products in Karachi, Islamabad, Lahor. Skilled engineer (trained by Sony hongkong) available. Panasonic products shall be maintained by the Maker's service center in accordance with warranty conditions.	Yes	KARACHI (in HQ) for Sony and Apple products	Karachi, Lahore, Islamabad (for PC)
8	Repair cost	It's varies for different type of equipment	Depends upon	Case to case basis	To be advised later
9	Skilled engneer. (Availability and Dispatch to abroad)	Yes (Islamabad: 2, Lahor: 1, Karachi: 3) Two eng have trained in Japan.	Yes	12 engineers	10 (for PC)
10	Dispatch acchivement (Afghanistan)	No	No	SHAMSHAD TV, ARIANA TV, CANDAHAR TV	JV with mesogotamic Corp. USA for o&m of ANA hospital, Medicine supply project , Helmand construction project.
11	Cost for despatch (Technical Charge, allowance etc.)	To be borne by customer	Depends upon products	Case to case basis	To be advised later
12	Others	1) Service manual for Sony products : CD available. 2) CCTV Sytem for PVT2 (educational channel) has supplied under JICA project. 3) Maitenance contracts between commecial TV station for maintenance and OH. 4) Direct sales to private shops in abroad is prohibitted under manufacturer's policy but, having experiences to supply small lot to private shop in Kabul.	1) Supplied equipment for Mobi Media Group in Afghanistan. 2) Can be provided supporting system in accordance with manufacturer's warranty conditions. N/A service center but possible to give an advice for software maintain. 3) PBC (Pakistan Broadcasting Company) : 500Kw Broadcasting Project under Japan's ODA	1) Delivered original designed OB Van to SHAMSHAD TV for seven months before. 2) Service center : Karachi only. Service counter : Islamabad and Lahor. 3) Mainly provide Sony products only. 4) Showroom provided in HQ (also utilized for training) 5) Service manual for Sony products : On line and Server.	1) SCADA system supplied for PVT-2 under Japan's grant aid. 2) Can be provided skilled engineer in house. 3) Available Kabul office but for other project basis.

(2) Study on procurement circumstances in the United Arab Emirates (Dubai)

Sony Professional Solutions MEA FZ LLC (hereinafter referred to as “SONY Dubai”) which is a local subsidiary of SONY provides repair service for equipment for broadcasting stations and training for engineers in Middle East, African countries and Gulf States. Total number of staff is about 100 including France Office to cover South African countries and North African countries.

SONY Dubai provides repairment service and overhaul for SONY equipment provided through the object project, however, they do not dispatch engineers to Afghanistan.

The workshop for repair and overhaul does not keep stocks of spare parts. They provide the service by placing an order for each service after confirmation of the customer and the contents of required service. Therefore, in case that they quote the amount for repair and overhaul service without confirmation of the condition of existing equipment as in this Follow-up Cooperation, quotation amount shall be expensive because of the assumption that they have to change the most parts of it.

SONY Dubai has enough space in their workshop for repairing OB van and assembling broadcasting system to adjust the system before delivery to broadcasting station. They also hold measurement equipment and engineers. Afghanistan is included in the territory of SONY Dubai, however, Pakistan is the territory of SONY Hongkong. For this reason, SONY Dubai has no information on the agent in Karachi. In case that the engineer will be dispatched from Pakistan, the agent has to confirm with SONY Hongkong.

Twenty seven videos provided through ongoing technical cooperation project by JICA have been sent to SONY Dubai for repair and overhaul. SONY Dubai has just completed repair and shipment of the last three units.

Though there is no agent in Afghanistan and SONY Dubai has no clear information on RTA, SONY Dubai can provide repair and overhaul service, spare parts and consumables for RTA in response to their request.

Chapter 4 Follow-up Cooperation Plan

Chapter 4 Follow-up Cooperation Plan

4-1 Study for Application Form and Outline of Follow-up Cooperation Plan

4-1-1 Request of Implementing Organization (RTA)

“List of Follow-up Cooperation Study Results”(Attachment-7) including the spare parts and consumables was prepared as soon as the failure and degraded equipment were confirmed with the counterpart, and several discussions were executed between the Team and RTA to finalize the equipment list to be provided.

The final list of equipment was made selecting the indispensable equipment for the system operation, the essential spare parts, the minimum consumables, and also taking the unavailability in Afghanistan into account. “Follow-up Cooperation Study Results List” is to share the relevant information with the counterpart, and the reconfirmation results of RTA are expressed in parallel. The outline of the Follow-up Cooperation Study result was explained to RTA when the Follow-up Cooperation Study was completed, and “Follow-up Cooperation Study Results List” was submitted, which it was mutually signed by RTA and the Team for the confirmation of current status. In addition, the Team also explained that all equipment described in the list is not a final selection of equipment to be granted by the Follow-up Cooperation, and the Team will continue the analysis in Japan to prepare the report for the final selection of equipment. That report will be forwarded to RTA for their final confirmation.

The Equipment for the repair and substitution, spare parts, consumables, and services (dispatch of engineers and training) is shown in “Quantity of equipment requested from RTA” in Attachment-1 Selected Equipment List.

4-1-2 Content of Follow-up Cooperation

(1) Basic policy of Follow-up Cooperation

- 1) The purpose of this Follow-up Cooperation is to restore the system function and performance of the Original Projects to the original state, and to aim at being able to continue the TV program production and broadcasting of the news program, the educational program, and the cultural program, etc. to contribute to the improvement at the national life stably.
- 2) The equipment is used effectively, making for its high utilisation; however, the equipment is already beyond the period within which broadcasting equipment is to be renewed. In particular, periodical overhaul, inspection and replacement of parts are an urgent issue for the equipment with mechanical features. Moreover, in order to continue to produce TV programs, it is essential to renew the equipment installed outdoors which has been rapidly worn away, deteriorated and damaged. In view of this, it is deemed reasonable to overhaul the equipment through the Follow-up Cooperation so that the function of the Original Projects will be maintained and production of TV programs will be continued.

- 3) The equipment to be provided by the Follow-up Cooperation is basically the same equipment or similar equipment that has the equivalent specification of the Original Projects. In consideration of rapid improvement of the quality of professional equipment in the technical breakthrough according to the digitalization of the equipment for broadcasting in recent years, if it meets the specification necessary for a current program production, professional equipment will be also selected instead of the equipment to be utilized for high quality broadcasting.
- 4) Since the support expire date of equipment manufacturer for the supply of spare parts and for the repair of the equipment granted by the Original Projects is close to the end, and the repair and the overhaul will sooner become impossible. Therefore, the equipment selection shall be made considering the longer support period until 2020 to the extent possible. Moreover, considering the total cost of life cycle, procurement cost for the substitute or new equipment/system is reasonable than cost for maintenance and overhaul, the former should be selected and proposed.
- 5) A shift of the media for recording the video and audio from the tape media used with an existing system to the optical disk and/or the memory media is rapidly advanced, and the high integration and the depreciation of static memory are especially remarkable. When considering new equipment/system based on this situation, the recording media which RTA can purchase by self-reliant efforts and the exchange method from the tape media to the selected media shall be taken into account.
- 6) The equipment which has the compatibility/correspondence, considering the training results and the granting equipment in the on-going technical cooperation project shall be selected.
- 7) The procurement from the third country will be considered because of the dispatch of professional engineer of manufacturer from Japan is impossible due to the security situation in Afghanistan. However, the equipment/system that require the system design configuration, adjustment, and testing to assure the compatibility with the Original Projects will be procured in Japan, and training/operation guidance shall be conducted in the neighboring country of Afghanistan or in Japan.

(2) Study of Object equipment and Verification of Validity

The selection and priority level of equipment were made according to the basic policy stated above, regarding the request of repair, substitute of failure equipment, spare parts, and consumables presented from the RTA side at the Follow-up Cooperation Study. Afterward, the validity of selected equipment was carefully verified.

1) Notes on the selected major equipment/system

a) Editing System

The editing controller and video switcher of the A/B roll editing system are out of order, and their warranty period have already ended, therefore, the equipment can not be repaired to the original configuration. The substitutes of the failed equipment are available in the mean time if the remaining equipment of the A/B roll editing system could be sent back to the

manufacturer's service center to integrate and test the entire system, requiring a hefty sum including return expenses. The Team examined the non-linear editing system in lieu of the A/B roll editing system considering the trend of broadcasting equipment, rapid shift from tape media to static memory media, and the replacement cost of substitutes and relevant cost to maintain the said editing system. As a result, the Team has selected and proposed the non-linear editing system because it is judged that the reduction of overall procurement cost and maintenance cost can be achieved.

In addition, another reason for shifting to the memory media at as early as possible is that the support of present VTR (DVW-A500P) has been already expired in March, 2013.

One VTR (DVW-A500P) overhauled by the technical cooperation project shall be used in the non-linear editing system to maintain the compatibility with the existing tape resource, and it was considered that the digital archive with the optical disk is possible for the long preservation of broadcasting program.

b) ENG Camera

Eight ENG cameras (Camcorder) that use the tape media greatly exceed the regular service and overhaul time periods, and their abrasion and the deterioration are remarkable because they are used outdoor. It is judged that a large-scale overhaul to replace many parts of them shall be required according to the drum running time recorded inside the camcorders, and the considerable amount of repair/overhaul cost including the return expense will be needed. Moreover, since the support of the equipment ends in March, 2015, the concerns over the operation and maintenance remain afterward.

Therefore, the SD memory camera is selected and proposed because it is judged that the reduction of overall procurement cost and maintenance cost can be achieved as well as for the editing system.

The selection of SD memory camera that has the compatibility with existing system realizes the reduction in a whole cost and the shift to the digital media that combine with the editing system, can be judged to be appropriate.

c) Video Color Monitor

Most of the CRT type video monitors used are degraded, and shall be replaced with LCD type video monitors since the use of CRT type monitor already discontinued and so as to properly evaluate the quality of broadcasting video signal at each point of studio facilities.

RTA requested their replacement to the multi-screen monitoring equipment, however, the Team recommends the replacement to the single screen monitors because the large-scale installation of wiring, system modification, adjustment/testing in the site shall be needed, and also costly.

The professional-use LCD monitor that has a wide viewing angle for the easy monitoring in the control room is selected and proposed, and it is judged that the quality and performance of this LCD monitor is equal to the equipment of the Original Projects.

d) Character Generator

In addition to the deterioration of the equipment itself, the computer performance and OS in the present character generator are of belonged to the previous generations beforehand besides the deterioration of the equipment itself, and its update by the replacement of software was assumed to be impossible. The Team decided to replace the whole system including the computer hardware. The integration with the existing system and the installation of Dari languages/fonts are mandatory.

e) Operation guidance and training in Japan

Since the non linear editing system and the SD memory camera (including SD wireless camera) adopt a technology different from an existing system, the operation guidance and training to the person in charge of RTA are indispensable. The same manufacturer of existing equipment/system is recommended to assure the compatibility with existing system such as the signal/recording format, interface among system components, and so on.

The system set-up, configuration, adjustment, testing and overall performance check will be conducted in Japan, and the initial operation guidance, training, and technology transfers including the installation method will be also executed in Japan inviting the RTA staff, and the equipment/system in Afghanistan will be assembled by RTA in accordance with relevant drawings to be attached.

f) Transmission Facilities

TV Transmitter and TV Repeater have been well maintained, and keep the initial performance. They were designed and manufactured considering long term operation, and the provision of spare parts for equipment concerned is judged to be unnecessary execution because no occurrence of the equipment trouble was reported by present and the spare item is unused. The sensor of power meter, audio monitor equipment and air monitor (color television) are failed and/or degraded, therefore, it is judged the equipment shall be provided by the Follow-up Cooperation.

g) Power Supply Facilities

The completely failed power supply equipment at the TV station and TV transmission site is only 100kVA AVR and the substitution equipment was installed and operated instead of the failed AVR. Fluctuation of commercial power supply can be covered by UPS installed with the substitution. However, the physical longevity of the substitution has already passed and it shall need to be replaced.

It is presumed that the storage capacity of lead-acid storage batteries inside the UPS and 24V Rectifier & Battery equipment is decreased due to the higher temperature than 25°C in the non-air-conditioned environment of the set-up location, and due to the aged deterioration in the past eight years. However, the average actual load to UPS is approximately 22 kVA taking the efficiency of AVR and UPS into account. It is judged that the current back-up time of UPS for 22 kVA load is sufficiently long compared with the back-up time specified by the

Original Projects for 75 kVA load. Hence, the replacement of those batteries is not considered as an urgent issue, and is not required in the mean time.

Since the automatic start/shut-down circuit board of 350kVA engine generator which is the main back-up facility against the blackout had failed, the simple start circuit was made by RTA as a tentative measure, which is still being operated. The spare parts to repair the failed circuit board shall be provided by this Follow-up Cooperation to restore 350kVA engine generator to original function.

The power feeding to the TV transmitter at TV transmission site will interrupt about 30 to 40 seconds when the commercial power failure starts until the emergency generator is activated, and the TV broadcasting is interrupted accordingly. The backup UPS is set up by RTA to prevent this phenomenon, however, the backup time is insufficient, therefore, the replacement of UPS is recommended.

The equipment and parts to be provided will be installed by RTA, however, it is judged to dispatch the expert to supervise from quality assurance viewpoint.

h) Air-conditioning Facilities

The chiller facility, Air-conditioning equipment, and heating boiler are operating normally, while, the chiller cooling water pump and cold water pump shall need to be replaced due to the water leakage through the degraded gasket. The trouble that leaks from the hot water heater panel happens frequently, and the failed panels were repaired as tentative measures. It is judged those panels shall be replaced. The equipment and parts to be provided will be installed by RTA, however, it is recommended to dispatch the expert to supervise from quality assurance viewpoint as well as the power supply equipment.

Since most of the wall-mounted heat pump type air-conditioners are not operating normally because of failure and degradation, it is judged that all equipment shall be replaced with those which can be procured in the local market considering the after-sales maintenance.

i) Building Facilities

The building is well maintained, cleaned, though some inevitable deterioration by use of building is observed. It is judged that the remedial maintenance by this Follow-up Cooperation is not required.

(3)Equipment for Follow-up Cooperation

The selection results of the equipment to be provided by the Follow-up Cooperation based on analysis in Japan and discussion for Scope of Work (SW) are shown in Table 4-1-2-1. The details from the request by RTA to the selection of equipment are shown in Attachment-1 Selected Equipment List.

In addition, the quantities of several equipment and spare parts were reduced from the requested quantity. They are listed in the following tables with the reasons for reduction.

Table 4-1-2-2 List of reduced Equipment (Equipment/System to be repaired/replaced)

Table 4-1-2-3 List of reduced Spare Parts (Spare Parts)

Table 4-1-2-1 Selected Equipment List

<A. Procurement in Japan>

No.	Category	Item	Model	Q'ty (※1)	Unit	Estimated Unit Price (JPY)	Estimated Total Price (JPY)
a-1	Equipment for Master Control Room	CD player / Stereo cassette	122MKIII	1	unit	124,000	124,000
a-2	Equipment for Master Control Room	9inch Color monitor	PVM-9L2	1	unit	330,000	330,000
a-3	Equipment for Master Control Room	15inch Color monitor	PVM-14L4	15	unit	154,000	2,310,000
a-4	Equipment for Master Control Room	21inch Color monitor	PVM-20L4	1	unit	174,000	174,000
a-5	Equipment for Master Control Room	26inch Air monitor	Replacement for KV-VA21M8J	1	unit	46,000	46,000
a-6	Equipment for Master Control Room	Monitor stand	--	12	unit	20,000	240,000
a-7	Equipment for Master Control Room	Sync Signal Generator	TG700 Repair (LCD module)	1	unit	89,000	89,000
a-8	Equipment for Production Studio	TRIAX cable (20m)	TRIAX cable (20m)	1	piece	131,000	131,000
a-9	Equipment for Production Studio	Focus demand bracket	CLAMPER CR-10	1	piece	25,000	25,000
a-10	Equipment for Production Studio	Studio color camera pedestal	TP-64	1	unit	5,543,000	5,543,000
a-11	Equipment for Production Studio	Prompter with camera	WP-20B-20B	2	set	3,276,000	6,552,000
a-12	Equipment for Production Studio	CD player / Stereo cassette	122MKIII	1	unit	124,000	124,000
a-13	Equipment for Production Studio	Condenser microphone	C-38B	4	unit	211,000	844,000
a-14	Equipment for Production Studio	Dynamic microphone	F-780	4	unit	41,000	164,000
a-15	Equipment for Production Studio	Lavalier microphone, including UHF synthesized transmitter(No.143)	ECM-44B+WRT-8B	4	unit	178,000	712,000
a-16	Equipment for Production Studio	9inch Color monitor	PVM-9L2	1	unit	330,000	330,000
a-17	Equipment for Production Studio	9inch Color monitor rack mount	PVM-9L2	2	unit	330,000	660,000
a-18	Equipment for Production Studio	15inch Color monitor	PVM-14L4	8	unit	154,000	1,232,000
a-19	Equipment for Production Studio	21inch Color monitor	PVM-20L4	3	unit	174,000	522,000
a-20	Equipment for Production Studio	SDI 4:2:2 Adapter (for 15inch color monitor (No.38-1))	BKM-320D	4	unit	44,000	176,000
a-21	Equipment for Production Studio	Monitor stand	--	8	unit	20,000	160,000
a-22	Equipment for Production Studio	Control room monitor speaker	NF-1	1	unit	84,000	84,000
a-23	Equipment for Production Studio	Stereo headphone	MDR-CD-2000	2	unit	72,000	144,000
a-24	Equipment for Production Studio	Earphone	MDR-EX17MM	5	unit	1,400	7,000
a-25	Equipment for Production Studio	Sync Signal Generator	TG700 Repair (LCD module)	1	unit	89,000	89,000
a-26	Equipment for News Studio	Focus motor drive mechanism(Repair in Japan)	17ax7.7B4 IASD SX12(Lense focus motor drive) Repair	1	set	1,630,000	1,630,000
a-27	Equipment for News Studio	Condenser microphone	C-38B	2	unit	211,000	422,000
a-28	Equipment for News Studio	Dynamic microphone	F-780	2	unit	41,000	82,000
a-29	Equipment for News Studio	Lavalier microphone, including UHF synthesized transmitter(No.143)	ECM-44B+WRT-8B	2	unit	178,000	356,000
a-30	Equipment for News Studio	15inch Color monitor	PVM-14L4	10	unit	154,000	1,540,000
a-31	Equipment for News Studio	21inch Color monitor	PVM-20L4	3	unit	174,000	522,000
a-32	Equipment for News Studio	32inch Floor Color monitor with stand	KV-AR29M86	1	unit	120,000	120,000
a-33	Equipment for News Studio	Monitor stand	--	10	unit	20,000	200,000
a-34	Equipment for News Studio	Control room monitor speaker	NF-1	1	unit	84,000	84,000
a-35	Equipment for News Studio	Stereo headphone	MDR-CD-2000	3	unit	72,000	216,000

※1 「Quantity」was decided according to the analysis in Japan and discussion for Scope of Work.

No.	Category	Item	Model	Q'ty	Unit	Estimated Unit Price	Estimated Total Price
a-36	Equipment for News Studio	Earphone	MDR-EX17MM	5	unit	1,400	7,000
a-37	Equipment for News Studio	Headset for TB	CC-100	2	unit	53,000	106,000
a-38	Equipment for News Studio	Sync Signal Generator	TG700 Repair (LCD module)	1	unit	89,000	89,000
a-39	Equipment for Editing System	Non-linear Editing System	Non-linear Editing System	1	set	8,463,000	8,463,000
a-40	Equipment for Editing System	Stereo headphone	MDR-CD-2000	6	unit	72,000	432,000
a-41	Equipment for Editing System	CD player / Stereo cassette	122MKIII	1	unit	124,000	124,000
a-42	Equipment for Editing System	9inch Color monitor	PVM-9L2	1	unit	330,000	330,000
a-43	Equipment for Editing System	9inch Color monitor rack mount	PVM-9L2	4	unit	330,000	1,320,000
a-44	Equipment for Editing System	15inch Color monitor	PVM-14L4	1	unit	154,000	154,000
a-45	Equipment for Editing System	32inch Floor Color monitor with stand	KV-AR29M86	1	unit	120,000	120,000
a-46	Equipment for Editing System	Sync Signal Generator	TG700 Repair (LCD module)	1	unit	89,000	89,000
a-47	Equipment for Editing System	Condenser microphone	C-38B	1	unit	211,000	211,000
a-48	Equipment for Editing System	Dynamic microphone	F-780	1	unit	41,000	41,000
a-49	Equipment for Editing System	Lavalier microphone, including UHF synthesized transmitter(No.143)	ECM-44B+WRT-8B	1	unit	178,000	178,000
a-50	Equipment for Editing System	Monitor speaker	NF-1	1	unit	84,000	84,000
a-51	Equipment for Editing System	Monitor speaker	SRP-S420	1	unit	119,000	119,000
a-52	Equipment for Editing System	Earphone	MDR-EX17MM	5	unit	1,400	7,000
a-53	Equipment for Editing System	Headset for TB	CC-100	2	unit	53,000	106,000
a-54	Equipment for ENG	SD memory camera	PMW-320K	8	set	1,617,000	12,936,000
a-55	Equipment for ENG	SxS Memory Card for SD memory camera	SBS-64G1A	12	set	89,000	1,068,000
a-56	Equipment for ENG	SD card adaptor for SD memory camera	MEAD-SD01	8	set	17,000	136,000
a-57	Equipment for ENG	Battery pack for SD memory camera	2BP-U60	8	set	64,000	512,000
a-58	Equipment for ENG	Battery charger for SD memory camera	BC-U2	8	set	42,000	336,000
a-59	Equipment for ENG	Soft carrying case for SD memory camera	LC-DS300SFT	8	set	51,000	408,000
a-60	Equipment for ENG	Compact mixer	KS-342+BH-1+PS-M14	2	unit	800,000	1,600,000
a-61	Equipment for ENG	Lavalier microphone, including UHF synthesized transmitter(No.143)	ECM-77B+WRT-8B	1	unit	208,200	208,200
a-62	Equipment for ENG	Gun microphone	AT4073a	8	unit	163,000	1,304,000
a-63	Equipment for ENG	Hand grip	AT8408	8	piece	54,000	432,000
a-64	Equipment for ENG	Windshield	AT8105SS	8	unit	88,000	704,000
a-65	Equipment for ENG	Carrying case for Gun Mic	Custom made	8	set	117,000	936,000
a-66	Equipment for ENG	Fish pole	HB-3K+TOMOCA 1/2AKG	3	unit	106,000	318,000
a-67	Equipment for ENG	Microphone cable 1.5M	EC015	8	piece	2,900	23,200
a-68	Equipment for ENG	Microphone cable 3M	EC03	8	piece	3,100	24,800
a-69	Equipment for ENG	Microphone cable 5M	EC05	16	piece	3,500	56,000
a-70	Equipment for ENG	Microphone cable 10M	EC010	16	piece	4,400	70,400
a-71	Equipment for ENG	Stereo headphone	MDR-CD-2000	8	unit	72,000	576,000
a-72	Equipment for ENG	Battery light	Replacement for LB-5II	8	set	485,000	3,880,000
a-73	OB Van	SD Wireless Camera	PMW-320K+IDX CW-7	1	unit	2,337,000	2,337,000
a-74	OB Van	Focus demand	FPD-400	3	unit	130,000	390,000

※1 「Quantity」was decided according to the analysis in Japan and discussion for Scope of Work.

No.	Category	Item	Model	Q'ty	Unit	Estimated Unit Price	Estimated Total Price
a-75	OB Van	Zoom demand	ZSD-300M	3	unit	160,000	480,000
a-76	OB Van	Carrying cases for camera	Custom made	3	set	155,000	465,000
a-77	OB Van	CCU DM unit for portable camera	DM-94 1-653-238-15	1	unit	347,400	347,400
a-78	OB Van	VTR (Repair in Dubai)	DVW-A500P	2	unit	2,789,000	5,578,000
a-79	OB Van	Audio mixer	MG124CX (SRP-V200)	1	unit	70,200	70,200
a-80	OB Van	Dynamic microphone	F-780	1	unit	41,000	41,000
a-81	OB Van	Stereo headphone	MDR-CD-2000	2	unit	72,000	144,000
a-82	OB Van	TRIAx Cable 100m	TRIAx Cable 100m	3	set	187,000	561,000
a-83	OB Van	Audio Multi Cable	Audio Multi Cable	3	set	168,000	504,000
a-84	OB Van	Headset for TB	CC-100	2	unit	53,000	106,000
a-85	News Car	9inch Color monitor	PVM-9L2	1	unit	330,000	330,000
a-86	News Car	9inch Color monitor rack mount	PVM-9L2	1	unit	330,000	330,000
a-87	News Car	Audio monitor speaker W/VU meter	Custom made	1	unit	304,700	304,700
a-88	News Car	VHF transceiver	VX-2200V	1	unit	275,000	275,000
a-89	TV Transmitting Equipment	Audio Monitor Unit for PIE	AMT-105	1	unit	588,000	588,000
a-90	TV Transmitting Equipment	Power sensor for RF power meter	MA2472B	1	unit	207,000	207,000
a-91	TV Transmitting Equipment	Color TV receiver with antenna	KV-XA21M8J	1	unit	256,000	256,000
a-92	Power Supply Equipment	Automatic Voltage Regulator (AVR)	Type SD-3	1	unit	5,976,000	5,976,000
a-93	Power Supply Equipment	Parts for 350kVA generator	Parts for Generator Board.	1	set	7,621,000	7,621,000
a-94	Power Supply Equipment	Small Engine Generator	DA-5000	1	unit	997,500	997,500
a-95	Power Supply Equipment	20kVA UPS	--	1	unit	4,748,000	4,748,000
a-96	Air Conditioning Equipment	Chilled water pump for AHU	32x32FS2G51.5	1	unit	261,000	261,000
a-97	Air Conditioning Equipment	Chilled water pump for chiller	65x50FS2G53.7	1	unit	333,000	333,000
a-98	Air Conditioning Equipment	Spray nozzle	Spray nozzle	6	set	178,000	1,068,000
a-99	Air Conditioning Equipment	Air filter	Air filter (for AHU, 1 set for 3 units)	1	set	221,000	221,000
a-100	Air Conditioning Equipment	Roll filter	Roll filter	1	set	0	0
a-101	Air Conditioning Equipment	Photo cell for Sectional boiler	C554A1299	1	piece	283,000	283,000
a-102	Water Supply Facilities	Water pump	MTP40-5.75	2	unit	193,000	386,000
a-103	Equipment for Master Control Room	Push Switches	Parts for 16x1 BUS Remote Cont Panel	10	piece	4,000	40,000
a-104	Equipment for Master Control Room	Digital video distribution amplifier	8941	6	unit	191,000	1,146,000
a-105	Equipment for Master Control Room	Cooling Fan	F6025E24B2 DC24 V 0.125A)	3	unit	21,000	63,000
a-106	Equipment for Master Control Room	A/D Converter without FS	8960DEC	5	unit	540,000	2,700,000
a-107	Equipment for Master Control Room	A/D Converter without FS	8960DEC	1	unit	540,000	540,000
a-108	Equipment for Master Control Room	D/A Converter	8960ENC	2	unit	397,000	794,000
a-109	Equipment for Master Control Room	Analog video distribution amplifier	TAD-201	4	unit	80,000	320,000
a-110	Equipment for Master Control Room	Digital audio distribution amplifier	ADU-145	4	unit	127,000	508,000
a-111	Equipment for Master Control Room	A/D Converter	ADU-115	2	unit	223,000	446,000
a-112	Equipment for Master Control Room	D/A Converter	ADU-134	2	unit	191,000	382,000

※1 「Quantity」was decided according to the analysis in Japan and discussion for Scope of Work.

No.	Category	Item	Model	Q'ty	Unit	Estimated Unit Price	Estimated Total Price
a-113	Equipment for News Studio	Push switches	One set of Push switches for DFS-700AP	1	set	173,000	173,000
a-114	Equipment for News Studio	Interface unit	BKPF-L753A	1	unit	45,000	45,000
a-115	Equipment for News Studio	Interface unit	BKPF-L703A	1	unit	52,000	52,000
a-116	Equipment for News Studio	Interface unit	BKPF-L653	1	unit	56,000	56,000
a-117	Equipment for News Studio	Interface unit	BKPF-L642	1	unit	312,000	312,000
a-118	Equipment for News Studio	Interface unit	BKPF-L641	1	unit	474,000	474,000
a-119	Equipment for News Studio	Interface unit	BKPF-L613C	1	unit	136,000	136,000
a-120	Equipment for News Studio	Interface unit	BKPF-L612	1	unit	159,000	159,000
a-121	Equipment for News Studio	Interface unit	BKPF-L603	1	unit	54,000	54,000
a-122	Equipment for Editing System	Faders	Spare faders for Audio mixer O3D	10	piece	1,800	18,000
a-123	TV Transmitting Equipment	Air Filter	Air Filter	4	set	10,000	40,000
a-124	TV Transmitting Equipment	Analog video distribution amplifier	TAD-201	1	unit	80,000	80,000
a-125	Power Supply Equipment	Spare unit for UPS (AMA750T3)	PRS-3488D	1	unit	1,329,000	1,329,000
a-126	Power Supply Equipment	Transfer Switch for AVR	SSK-E603E-3FD	1	unit	299,000	299,000
a-127	Lighting Equipment	Lamp for Production Studio	JP 220V-1000W C/G	50	piece	15,000	750,000
a-128	Lighting Equipment	Lamp for Production Studio	JP 220V-2000W C/G	20	piece	19,000	380,000
a-129	Lighting Equipment	Lamp for News Studio	J220V-300W	50	piece	5,500	275,000
a-130	Lighting Equipment	Lamp for News Studio	J220V-500W	100	piece	5,300	530,000
a-131	Lighting Equipment	Lamp for ENG	220V 650W for TOSHIBA UNIFOCUS 650	200	piece	6,800	1,360,000
a-132	Maintenance	Contact cleaner	Contact cleaner	10	set	1,000	10,000
a-133	Maintenance	super bond	all-purpose type	10	set	1,000	10,000
a-134	Maintenance	Air duster	Air duster	10	set	1,000	10,000
a-135	Equipment for Editing System	Non-linear editing system	①Equipment procurement, designing system, system examination (in Japan) ②Operation guidance and training (in Japan inviting RTA staff)	1	set	2,100,000	2,100,000
a-136	ENG	SD memory camera	Operation guidance and training (in Japan inviting RTA staff)	8	set	The price is included in the above Non-linear editing system.	
a-137	OB Van	SD Wireless Camera	Operation guidance and training (in Japan inviting RTA staff)	1	set	3,102,000	3,102,000
a-138	Power supply and air-conditioning equipment	Emergency generator, AVR, UPS, AHU, Pump, etc.	Supervisor from Japan	1	set	3,500,000	3,500,000
						Total of Procurement in Japan	120,894,400

※1 「Quantity」 was decided according to the analysis in Japan and discussion for Scope of Work.

<B. Procurement in the third country (Pakistan)>

No.	Category	Item	Model	Q'ty	Unit	Estimated Unit Price	Estimated Total Price
b-1	Equipment for Master Control Room	Character generator	CG SUPREME	1	set	896,800	896,800
b-2	Equipment for News Studio	Character generator	CG-FX	1	set	896,800	896,800
b-3	Equipment for Editing System	Character generator	CG-FX	3	set	896,800	2,690,400
b-4	OB Van	Character generator	CGS/600	1	set	3,071,825	3,071,825
b-5	Equipment for Master Control Room	Intercom system key panel	MKP-12+MCP-90-12	2	set	21,850	43,700
b-6	Equipment for Master Control Room	Intercom system key panel	WKP-4+MCP-90-12	1	set	155,325	155,325
b-7	Equipment for Master Control Room	Service for character generator	System integration and adjustment (Engineer from agent in Pakistan)	1	set	1,301,500	1,301,500
b-7	Equipment for News Studio						
b-7	Equipment for Editing System						
b-7	OB Van						
b-8	Equipment for Master Control Room	Service for intercom key panel	System integration and adjustment (Engineer from agent in Pakistan)	1	set	The price is included in the above Service for character generator.	
b-9	Equipment for Master Control Room	Training for digital waveform monitor and digital audio monitor	Operation Training (Engineer from agent in Pakistan)	1	set	The price is included in the above Service for character generator.	
						Total of Procurement in the third country	9,056,350

<C. Local Procurement (Afghanistan)>

No.	Category	Item	Model	Q'ty	Unit	Estimated Unit Price	Estimated Total Price
c-1	Air Conditioning Equipment for Transmission Site	Air Conditioning Equipment	FTXD/RXD71JVEA	4	set	300,000	1,200,000

※1 「Quantity」 was decided according to the analysis in Japan and discussion for Scope of Work.

Estimated Amount at the conclusion of Scope of Work is as follows.

Estimated Amount (Equipment)	(A. Procurement in Japan + B. Procurement in the third country + C. Local Procurement)	131,150,750
Estimated Amount (Transportation expenses and Management cost)	(Estimated Amount (Equipment) X 0.15)	19,672,613
Total Estimated Amount		150,823,363

Table 4-1-2-2 List of reduced Equipment (1/2)

Item	Type/Model	Comments	Deducted Q'ty
Equipment for Production Studio			
Master clock system	Master clock system	Because the requested quantity is reduced one to zero by RTA.	1
Equipment for Editing System			
Parts for video switcher DVS-2000C	Switch set	Because the manufacturer support has ended, it changes to the non linear editing system.	1
Video effector	DME-3000/PAC	Because the manufacturer support has ended, it changes to the non linear editing system.	1
Edit controller	BVE-2000	Because the manufacturer support has ended, it changes to the non linear editing system.	1
9inch color monitor	PVM-9L	The requested quantity is reduced from six to one according to the system changes.	5
14inch color monitor	PVM14-L4	The requested quantity is reduced from two to one according to the system changes.	1
OB Van			
Carrying cases for tripod	Custom made	It is judged this item is not urgent, and can be repaired in Afghanistan.	3
Carrying cases for Dolly	Custom made	It is judged this item is not urgent, and can be repaired in Afghanistan.	3
VTR (Repair in Dubai)	DVW-A500P	The requested quantity is reduced from three to two according to the system changes.	1
FPU (Repair in Dubai)	ML-B200	The manufacturer support has ended.	1
News car			
Portable digital video recorder	DVW-250P	Because the manufacturer support has ended, it changes to the SD memory camera.	3
Transmission equipment (TV TX)			
Power sensor	MA-2472B	Because the original quantity of the object item is one, therefore, two request items are reduced to one.	1
Color TV	KV-XA21M8J	Because the original quantity of the object item is one, therefore, two request items are reduced to one.	1
Power Supply Equipment			

Table 4-1-2-2 List of reduced Equipment (2/2)

Item	Type/Model	Comments	Deducted Q'ty
ENG			
Camcorder (Repair)	DVW-707P	Because the manufacturer support has ended, it changes to the SD memory camera.	8
Power Supply Equipment			
Battery for UPS	LHM38-12	It is judged this item is not urgent.	90
Battery for 24V rectifier	FV6-100-6	It is judged this item is not urgent.	4
Air-Conditioning Equipment			
Heat Pump Air Conditioner	FTXD/RXD71JVEA	This item can be purchased by RTA themselves in Afghanistan	13
Hot water heating Plate	PS	This item can be purchased by RTA themselves in Afghanistan	30
Fun coil unit	FWHM4AVE	This item is already discontinued and there is no replacement. It is judged this item is not urgent.	1

Table 4-1-2-3 List of reduced Spare Parts

Item	Type/Model	Comments	Deducted Q'ty
Transmission equipment (TV TX)			
Spare unit for transmitter	HPB-3101	These items are already discontinued. It is judged that there is no emergency because the all spare units provided by the original projects remain, and the transmission system has been operating for eight years without the trouble.	1
Spare unit for transmitter	HPB-3102		1
Spare unit for transmitter	HPB-3103		1
Spare unit for transmitter	HPB-3104		1
Spare unit for transmitter	HPB-3105		1
Spare unit for transmitter	HPB-3106		1
Spare unit for transmitter	HPB-3108		1
Spare unit for transmitter	HPB-3109		1
Spare unit for transmitter	V1200GH		2
Spare unit for transmitter	V600GH		1
Spare unit for transmitter	56A50VPS		2
Power Supply Equipment			
UPS control unit	PRS-3487C	This item is already discontinued and there is no replacement	1
Parts for AMF panel	DKG-205	This item is not available due to no distributor	2
75 kVA AVR (unit)	PS-375ex	This item is not available due to no distributor	1

4-2 Project Implementation Program

4-2-1 Equipment Procurement Plan

(1) Basic Policy of Procurement

The major equipment of the Original Projects was provided by the Japanese manufacturer; however, the dispatch of engineer to Afghanistan is currently impossible under the evacuation advice by Ministry of Foreign Affairs in Japan due to the critical security situation in Afghanistan. Currently, the Ministry of Foreign Affairs of Japan has issued a warning for Japanese nationals advising them to leave Afghanistan. According to relevant manufacturers, they are unable to dispatch not only their employees but also those of their affiliated companies (including Japanese nationals and foreigners under direct contract) to Afghanistan for security reason.

Therefore, the equipment procurement plan was settled by classifying the procurement as follows. Dubai, the UAE, is excluded from the countries where the equipment to be procured because of the manufacturers' distribution right and a matter related to the engineer dispatch.

1) Stand-alone equipment, spare units, and spare parts etc. (Procurement in Japan)

The equipment to be managed by RTA in granting the equipment, spare units, and spare parts etc. will be procured in Japan to secure the quality and to maintain the compatibility with existing equipment/system. In addition, it is judged the procurement in Japan is appropriate because the interface with existing equipment/system is strongly required to restore the initial function and performance of the Original Projects, and also high reliability to continue 24-hour TV broadcasting. The procured broadcasting equipment shall not be the one for consumer use but for professional use with high performance and quality.

The equipment consists of the following items for which no engineer needs to be sent to Afghanistan for the installation and testing.

- a) Equipment for Master Control Room (CD Player / Stereo Cassette Recorder, Color Monitor, etc.): 1 Set
- b) Equipment for Production Studio (TRIAX Cable, Camera Pedestal, etc.): 1 set
- c) Equipment for News Studio (Condenser Microphone, Color Monitor, etc.): 1 set
- d) Equipment for Editing System (CD Player / Stereo Cassette Recorder, Color Monitor, etc.): 1 set
- e) ENG (Compact Mixer, Gun Microphone, etc.): 1 set
- f) OB Van (Audio Mixer, Audio Multi Cable, etc.): 1 set
- g) News Car (Color Monitor, VHF Transceiver, etc.): 1 set
- h) TV Transmitting Equipment (Power Sensor, Color TV, etc.): 1 set
- i) Low Voltage Power Distribution System (AVR, UPS, etc.): 1 set
- j) Power Supply System for Emergency (Parts for Generator, etc.): 1 set
- k) Power Supply Equipment (Small Engine Generator, etc.): 1 set

- l) Air-Conditioning (Cooling) Equipment (Chilled Water Pump, Fan Coil Unit, etc.): 1 set
- m) Air Conditioning (Heating) Equipment (Photo Cell for Sectional Boiler, etc.): 1 set
- n) Water Supply Facilities (Water Pump, etc.): 1 set

2) Equipment for which system integration is required (Procurement in Japan)

The equipment which requires the system integration and system design are to maintain the compatibility with existing equipment/system will be procured in Japan, and the system set-up, configuration, adjustment, testing and overall performance check will be conducted in Japan.

The initial operation guidance and training will be executed in Japan inviting the RTA staff, and the equipment/system in Afghanistan will be assembled by RTA in accordance with relevant drawings to be attached.

The following equipment/system is the subject of this category.

- a) Non-linear editing system: 1 set
- b) SD memory camera: 8 sets
- c) SD wireless camera: 1 set

3) Equipment for which system construction is needed (Procurement in third-country)

The equipment/system which the system design, installation, configuration, adjustment, and testing will be procured in the third-country, and the initial operation guidance and training will be conducted at the site.

The following equipment/system is the subject of this category.

- a) Character Generator: 6 sets
- b) Intercom Key Panel: 3 sets²
- c) Measuring Instrument Operation Training: 1 lot

The aforementioned equipment/systems may be procured in Pakistan taking the skills of engineering/installation, and the experience into account.

Procurement and training of the equipment shall be arranged through the manufacturers' distributors in Pakistan in light of technical level, installation capacity and experience.

It is desirable, but impossible due to security reason, to procure the abovementioned equipment a) and b) from the manufacturer of the existing system for compatibility. The equipment shall therefore be procured in Pakistan. In addition, the equipment a) and b) require system and installation design in order to ensure consistency with the existing system. Since the manufacturers in Japan is unable to provide documents for design such as as-built drawings because of copyright, the distributors need to conduct an on-site pre-survey for the system design. It is necessary to include the pre-survey in the procured items.

² After the survey, it turned out to be possible to purchase Intercom Keypanels through the agent in Japan and replaced by RTA. Therefore, it has been decided that Intercom Keypanels should be purchased in Japan.

Also, it is confirmed that the distributor in Pakistan can provide the measuring instrument operation training.

4) Equipment for which equipment provision and Supervisor dispatch are necessary (Procurement in Japan)

The power supply and air-conditioning equipment to be provided by the Follow-up Cooperation will be installed and tested by RTA staff. RTA requested the dispatch of professional engineer to supervise their works from the viewpoint of the quality assurance. The request is reasonable for the following two reasons: it is necessary to properly install and coordinate the power supply and the air-conditioning equipment which are key facilities for TV program production and to assure their long-term operation; and, it is important to control and check the quality of the installation work to prevent an accident and a fire.

The power supply and the air-conditioning equipment shall be procured in Japan because they are in urgent need and require consideration of the compatibility with the existing equipment. In terms of supervisor dispatch, it is impossible for the manufacturers to send their engineers to Afghanistan. Under this circumstance, it is desirable to select a professional engineer of power supply and air-conditioning equipment, have them obtain necessary information for the installation and setup of the equipment from the manufacturer and dispatch them to the country.

5) Independent Air-conditioning Equipment (Procurement in Afghanistan)

The independent heat pump type air-conditioning equipment can be procured in Afghanistan. It is the only equipment to be procured in the country.

(2) System Diagram after Completion of the Follow-up Cooperation

The proposed system diagram after completion of the Follow-up Cooperation based on the basic policy of procurement specified in (1) is as shown in Attachment-8.

4-2-2 Transportation and Customs Clearance to Afghanistan

Afghanistan is the country without a coastline, and the goods imported from abroad are unloaded in the port of another country, and are transported to the Afghanistan by truck or other means of transportation. Much freight are unloaded from the ship in the port of Karachi, Pakistan, transshipped to the truck, and carried to Afghanistan. However, the transportation situation is very unstable according to various problems originating in the political relation between Afghanistan and Pakistan, and originating in the activity of ISAF (International Security Assistance Force) and the U.S. military.

As an alternative transportation route, some of the goods imported from abroad are unloaded from the ship in Bandar Abbas port in Iran, transshipped to the truck, and carried to Afghanistan via Herat. However, during the inland transportation in Afghanistan via southern route, it sometimes encounters

with the robbery and attack by the rebel, and as for the transportation via northern route, it affected by the unfinished rough road and especially by the significant weather in winter. Some freight are carried via Turkmenistan, Uzbekistan, and Tajikistan that are bordering on Afghanistan.

JICA Afghanistan Office conferred on the handling of the exemption from taxation in this Follow-up Cooperation with Afghanistan Ministry of Finance (MoF), and it was mutually agreed on indisputable the execution of exemption from taxation at the responsibility of the Afghanistan side. In addition, the exemption from taxation by the Afghanistan side was confirmed in MoD (Attachement-4), concluded between Afghanistan Information Cultural Ministry (MoIC)/RTA and JICA in this Follow-up Cooperation Study.

With regard to procedures of tax exemption and customs clearance, the Team consulted with persons in charge of customs clearance in other grant aid projects implemented by JICA, namely the Project for Construction of Hospital for Communicable Disease and the Project for Rehabilitation of Airfield Pavements at Kabul International Airport. While pre-registration for tax exemption is required in the former project, tax exemption is applied without pre-registration in the latter. It is unsure which one is the official procedure for tax exemption in Afghanistan. According to the persons in charge, however, the difference in the procedures probably stems from the power balance among the Ministries and some kind of internal factor because the former project is implemented by the MoPH and the latter by the MoTCA.

In the Project of Construction of Hospital, the products are sent via Karachi from Japan and via Bandar Abbas from China by ship, and they need 84 days on average to reach Kabul. In the other project, on the other hand, many of the products are shipped by air and taxes imposed on the products are borne by some of the contractors without waiting for necessary documents for tax exemption so as to prevent delay in construction schedule.

The MoF and the RTA have granted tax exemption and customs clearance as Afghanistan's responsibility. The Team also checked the tax exemption procedures with the MoD and learned that the products that RTA purchases on its own budget are usually couriered in order to avoid cumbersome importation procedures. Although the RTA says customs clearance with tax exemption is secured, there is a high possibility that a problem will arise in connection with customs clearance. Because Japanese contractors apply for tax exemption in the aforementioned two projects, it is necessary to make sure that adequate support from JICA Afghanistan Office will be provided during the implementation of the Follow-up Cooperation.

Most of the items to be procured through the Follow-up Cooperation are precision equipment for broadcasting. Since road conditions in Afghanistan as well as its neighbouring countries are not good, it is important to take measures such as covering with damp-proof and dust-proof sheets and crating with cushioning materials in order to protect the equipment from transportation vibration or dust, regardless of the transportation method.

For this reason, it is advisable to transport the equipment by air to prevent damage which may occur at the port of discharge or during transportation or storage. Because some of the items such as UPS may

not be shipped by air due to their large demension and weight, however, it is necessary to check with carriers beforehand. In the event the items cannot be sent by air, ocean transport should be considered for the items, separately from the other equipment

4-2-3 Implementation Schedule

The implementation schedule plan is shown in the following tables by number of months from the contract. It is expected to take about ten months for procurement in Afghanistan and about 12 months for procurement in Japan and the third country from order to installation. This period includes five months to eight months for production (depends on equipment), about four months for preparation, shipment and receiving.

4-2-4 Maintenance Management Plan

(1) Replacement of Equipment

The availability and reliability of the system constructed with the Original Projects will be greatly improved by this Follow-up Cooperation, and also the spare parts and consumables will be supplied to maintain them. The equipment/system provided by the Original Projects have been operated for approximately eight years, and it is judged that the periodic equipment replacement will be required to maintain the system function and performance in the future.

It is necessary to procure and replace of the equipment based on the budget and the maintenance plan so that RTA may perform the role as the public broadcaster. The Team proposes the maintenance management plan for the equipment/system provided by the Follow-up Cooperation and the Original Projects taking the periodic replacement of the equipment into account.

In this Follow-up Cooperation, the update of recording media from the tape to the static memory is planned considering the transition to the digital terrestrial broadcasting, the trend of the broadcasting equipment market, and the shift to the digital archive in near future. In case of the conventional tape recording media, the periodic replacement of mechanical parts such as the roller and the drum of VTR are required, and considerable maintenance expenses will be needed, while, the maintenance cost can be reduced by this update of recording media because of the sharp decrease of movable mechanisms of the recorder.

The numbers of VTR were overhauled by the technical cooperation project, and those VTR are still key equipment of the system, therefore, the periodic component replacement is necessary in the future. The VTR drum shall be replaced every three years considering the physical longevity and the fast-wearing parts shall be replaced every year. These spare parts kits and jigs are granted by the technical cooperation project, and several trainings had been conducted, therefore the periodic replacement can be done by RTA.

(2) Periodic Maintenance

The trouble rate of the equipment is in the decreasing tendency because of the decrease in the number of composition parts in addition to reliability and the durability of electronic equipment having improved by the technical improvement in recent years, however, it is important to execute the daily checkup and periodic maintenance to use the equipment/system effectively for a long term period.

The check record shall be made and registered to evaluate the performance degradation through time series.

One of the purposes of the periodic maintenance is to catch a numeric performance change by the check record, and read the sign of failure beforehand. It is important all the more in the organization where the replacement of the equipment is not enforceable due to financial restriction.

Therefore, it is required to settle on a minimum maintenance standard necessary for the daily checkup and the periodic maintenance, and to straighten the system to prevent the equipment from failure beforehand.

The item of the daily checkup and the periodic maintenance of the equipment and measuring instruments necessary for the check are shown in the manual delivered by the Original Projects, and that information were explained by the text books used in the operation guidance and trainings which had been conducted after the construction works of the Original Projects completed. The training of the measuring instrument will be performed by Follow-up Cooperation following the training program by the technical cooperation project. It is recommended that the periodic maintenance plan and procedure will be settled by RTA considering their current conditions.

(3) Maintenance Expenses

The equipment provided by this Follow-up Cooperation and the Original Projects shall be periodically replaced so that the broadcasting system is being properly managed and operated in the future. Therefore, the operation and maintenance plan counting on the periodic replacement expense of the equipment in addition to the maintenance expense of new/existing equipment shall be settled, and calculated budget shall be realized.

The maintenance expenses from year 2007 to 2011 were 40,321 US dollars, and the annual average of the equipment replacement expenses were 134,904 US dollars. It is judged that similar budget measures shall be taken, and the Team estimated the maintenance expenses with the equipment replacement plan considering the operation method and the equipment use frequency of RTA.

1) Condition of Plan Setting and Estimation

The personnel expenses of 21 maintenance engineers who involve in the maintenance of equipment provided by the Original Projects that had been shown from RTA was estimated from the whole RTA budget on a pro-rata basis. Assuming that increase rate of 13% for personnel expenses in the past five years will continue for the next five years.

The transportation expense was estimated as only 100 US dollars, since the expense for the maintenance would be small.

The utility bill/fuel expenses were estimated on a pro-rata basis in the same manner as the personnel expenses, adapting 6% inflation rate.

As for the equipment procured for this Follow-up Cooperation, the assumption was made, assuming that the equipment will not need replacement in the next five years and slight failure of equipment.

Some of the existing equipment which is estimated to have high possibility of failure in the next five years and considered appropriate to be replaced or changed to the alternative system were incorporated into the plan as "Equipment scheduled to be replaced".

The equipment scheduled to be replaced is shown in Table 4-2-4-1 below.

Table 4-2-4-1 Equipment scheduled to be replaced

Category	Item	Model	Q'ty
Equipment for Studio	Logo and time generator	LG-300, VTG-55B	1
Equipment for Studio	System converter	CVR450	1
Equipment for Studio	VITS inserter	VITS201	1
Equipment for Studio	Inserter	DSK-6801	1
Equipment for Studio	Digital video switcher	VIA-32x4S-ASI	1
Equipment for Studio	3x1 V/A switcher	Custom-made	1
Equipment for Studio	Studio color camera	BVP-E10P	1
Equipment for Studio	Digital video switcher	DVS-2000C	1
Equipment for Studio	Digital video effector	DME-3000/PAC	1
Equipment for Studio	Digital video effector	X+16x1S	1
Equipment for Studio	Digital video switcher	DFS-700AP	1
Equipment for Studio	16x16 digital A/V matrix switcher	X+16x16SAES	1
Equipment for Studio	Editing controller	PVE-500	1
Equipment for Studio	Audio master matrix	ADSW-2000	1
Equipment for Studio	Digital audio switcher	VIA-32x16AES-C	1
Equipment for Studio	6x1 audio switcher	Custom-made	1
Equipment for Studio	Audio level controller	Model 320A	1
Equipment for Studio	Digital delay	SRP-L300	1
Equipment for Studio	Digital audio mixer	On-Air1000	1
Equipment for Studio	D/A converter	DA824	1
Equipment for Studio	Audio line converter	LA-40MKII	1
Equipment for Studio	Portable mixer	AMX-12	1
Equipment for Studio	Rack mount monitor	AMS-100	1
Equipment for Studio	Studio monitor speaker	SRP-S420	1
Equipment for Studio	Active monitor speaker	SMS-1P	1
Equipment for Studio	Word sync generator system	LT428	1
Equipment for Studio	Video timer	VTG-55B	1
STL/TSL Equipment	STL transmitter	Custom-made	1
STL/TSL Equipment	Transmitter exchanger	Custom-made	1
STL/TSL Equipment	STL receiver	Custom-made	1
STL/TSL Equipment	Receiver exchanger	Custom-made	1

2) Maintenance Expenses Budget (proposed)

Based on the preceding clause, the maintenance expenses budget was calculated for the next five years, and the budget is shown in Table 4-2-4-2 below.

This proposed budget has small amount variance only when compared with the past five years budget and expenditure of TV Section Maintenance. Thus, it is considered that this budget can be executed by self-reliant efforts of RTA. However, this proposed plan is for equipment/system provided under the Original Projects and the Follow-up Cooperation, and, therefore, the Team proposes that the master plan should be shifted to and prepared as the one for the digital terrestrial broadcasting including the maintenance expenses budget plan considering the current broadcasting system as soon as possible.

Table 4-2-4-2 TV Section Maintenance Expenses Budget (Proposed)

(USD)

Item \ year		2013	2014	2015	2016	2017
Expenditure	Personnel Expenses	38,388	43,378	49,018	55,390	62,591
	Travel Expenses	100	100	100	100	100
	Electric/Fuel Expenses	14,579	15,453	16,381	17,364	18,406
	Spare parts Expenses	10,000	10,000	12,000	12,000	15,000
	Consumables	15,000	15,000	15,000	15,000	15,000
	Purchase of new equipment for replacement	182,500	182,500	182,500	182,500	182,500
Budget total		260,567	266,431	274,999	282,354	293,597

(USD1=AFN50)

4-3 Major changes after the conclusion of Scope of Work (SW)

(1) Change of the Place of Procurement

It was concluded that the purchasing Intercom Keypanels (3 units) in Pakistan was reasonable after the site survey. However, before commencing procurement procedures, it turned out to be possible to purchase them through the agent in Japan. Considering the efficient procurement process and management of delivery, it has been decided that Intercom Keypanels should be purchased in Japan [see 3) Equipment for which system construction is needed (Procurement in third-country) on p.4-15].

With this change of place to procure the equipment from Pakistan to Japan, it has turned out that the time required for production of the equipment in Pakistan can be reduced to about two months, while it was first estimated to take about six months. [See Table 4-2-3-2 Implementation Schedule (Third Country Procurement in Pakistan) on p.4-19].

(2) Change of the Place of Repair

VTR (DVW-A500P) was initially planned to be repaired in Dubai after the site survey. However, it would be preferable to repair it in Japan because there is no JICA Chief Representative in charge of contracts in Dubai. As a general rule of procurement in Japan, the place for providing service shall be one country, i.e. Japan. Besides, the special condition shall be required for the service provided in Dubai and delivery to Afghanistan, and it turned out that this equipment can be repaired in Japan. Thus, the place of repair has been changed to Japan (see OB Van of Table 4-1-2-2 List of reduced Equipment on p. 4-11).

(3) Change of Equipment categorized as dangerous goods

Contact cleaners and air dusters were originally planned to be purchased in Japan. However, since they fall under the category of dangerous goods and cannot be shipped by air, air compressors are to be procured instead of these two items (see Items No. a-132 and No. a-134 on p. 4-9).

(4) Change of Equipment due to change of transportation method

Since Automatic Voltage Regulator (AVR) for Power Supply Equipment was originally planned to be shipped by sea because it was not able to load in horizontal position, the equipment with standard specifications was selected. However, after the conclusion of Scope of Work, public order of the routes from Pakistan and Iran to Afghanistan got worse and it became difficult to transport it by land. Therefore the transportation method has been changed to the air transportation. Accordingly, the specification of the equipment was changed to custom-made to adjust the size for the air transportation (see Item No. a-92 of Attachment 1 Selected Equipment List).

(4) Change of Equipment and Model Number because of Discontinuation of Equipment

The production of some equipment has been discontinued and some equipment has been sold out because of the passage of time between the conclusion of the Scope of Work and the procurement procedures. Therefore, some of the requested equipment has been changed to the replacements or successor models. In addition, some model numbers have been changed by manufacturers (see Attachment 1 Selected Equipment List for details).

Chapter 5 Effect Expected by the Follow-up Cooperation

Chapter 5 Effect Expected by the Follow-up Cooperation

5-1 Superior Objective and Objective of the Follow-up Cooperation

Both the superior plan by the Afghanistan government and the future plan (master plan) to be made by RTA are being prepared. The capacity strengthening of the TV station to deliver the TV program that the people request is included as one of the priority issues in National Development Policy in 2002. RTA, the national public broadcasting organization of the Afghanistan is the only organization for which Japan has provided the assistance in the broadcasting field in Afghanistan since 1976. The remarkable results such as the improvement of broadcasting facilities to the latest equipment, the great strengthening of program production ability, the realization of 24 hours broadcasting following the expansion of the broadcasting time, and the overseas satellite broadcasting have been accomplished by the Original Projects in 2002 and 2003.

The target of this Follow-up Cooperation is to restore the initial function and performance of the Original Projects, and to extend the life time of the system concerned until 2020 when RTA plans transition to terrestrial digital broadcasting.

5-2 Effect of the Follow-up Cooperation

The equipment/system investigated by the Follow-up Cooperation Study are being operated for more than eight years and well-maintained by RTA, however, failures of the equipment due to the wear and/or the time-related deterioration occurs. The backbone facilities are being operated without the spare parts and consumables, therefore, the occurrence probability of broadcasting interruption is increasing. The deterioration of the equipment for OB Van and ENG equipment are remarkable because of outdoor use. These critical situations will be improved by this Follow-up Cooperation repairing the failed equipment, replacing the defect equipment to the substitute, and providing the spare parts/consumables. In addition, the life time of the system will be substantially extended.

Moreover, it is judged that the continuous operation of existing system is indispensable for the stable broadcasting transmission in the future by reason of the possible delay in the implementation to shift to the digital terrestrial broadcasting which RTA aims to start in the beginning in 2020.

RTA is transmitting 24 hours terrestrial broadcasting in Kabul and the suburban cities, and the domestic-oriented satellite broadcasting as well as the satellite broadcasting for overseas resident. The broadcasting industry of RTA will be activated further by this Follow-up Cooperation, and the domestic information and much information including the international situation will be supplied by this activation to Afghan residents in the whole nation and foreign countries. Thus, the tremendous benefit will be provided through this cooperation. In addition, the improvement of awareness and the revitalization of the domestic and foreign viewers can be aimed at through steady Television

Broadcasting, and the ripple effect to establish the foundation of the popular-nation participation-type country can be expected in near future.

5-3 Efficiency and impact of the Follow-up Cooperation

RTA does not have the serious issues on the organizational management, and make full use of the equipment/system granted by the Original Projects. On the other hand, the measures to maintain the equipment/system by self-reliant efforts of RTA is extremely limited because of the unavailability of spare parts/consumables for the professional broadcasting equipment in the local market, and the deficiencies of budget. The program production and broadcasting for the information transmission to the whole nation can be continued by extending the life time of equipment until 2020 at least through repairing the failed equipment, replacing the defect equipment to the substitute, and providing the spare parts. From such view-points, this Follow-up Cooperation is efficient support that is enforceable by the much less funds compared with the case of the new equipment granting.

The versatile TV program can be produced by solving the deficiency of the equipment/system. Particularly, the multi-language program can be produced for the multiracial and polyglot Afghanistan nation, and the provision of equal opportunity of information will be realized.

Television Broadcasting is one of the valuable means to obtain information in Afghanistan where the road network and the public transportation facility are undeveloped, which contributes to the improvements of awareness and knowledge for the peoples. Moreover, the information on event and incident obtained from the daily TV broadcasting is extremely important for civilian security of Afghanistan where mayhem by the terrorist continues. In addition, various information on merchandise, market trend etc. is one of the bases that activate and develop economy.

Thus, the strengthening of TV broadcasting capability through this Follow-up Cooperation is judged have a large impact for the Afghanistan people.

5-4 Proposals

The technological level of RTA has reached a sufficient level which enables the operation of the equipment/system provided by the Original Projects. Moreover, the effective improvement of technical level and the strengthening of operation/maintenance management were achieved by the guidance of the equipment/system, the practical training of measuring instrument, and introduction of the maintenance program executed in the technical cooperation project of the Japan in 2010 and 2011.

Most of the existing equipment were provided by the grant aid of Japan about eight years ago, and considerable number of failure and/or abrasion/degradation of the equipment have been occurred. However, the facilities are well maintained, effectively used, and the utilization rates of facilities is effectively high. On the other hand, the operation of facilities has fallen into critical situation because the repair works, preventive maintenance, routine check/adjustment, and overhaul of the equipment

could not be adequately performed due the unavailability of the professional broadcasting equipment, spare parts/consumables, and repair parts in the local market in Afghanistan, in addition to the insufficient budget to maintain the equipment/system. Especially, the backbone system is being operated without the spare parts; hence, immediate measures shall be taken. This Follow-up Cooperation was drawn up as urgent support plan that aims at the equipment/system operation until 2020 at least, and the strengthening of RTA maintenance system including securing maintenance management budget by self-reliant efforts of RTA and developing new procurement routes is essential to realize that the achievement of self-sustaining development of RTA side from now on.

The people in charge of the studio equipment maintenance well understand the situation of system, appropriately operate and maintain the system at a certain level required in the current operation. However, it is presumed the preventive maintenance is not executed using the measuring instruments. In case the serious trouble such as the system down occurs, the restoration works seem to be executed replacing a unit and/or changing the parts inside equipment/unit by cut and try. Moreover, it is also presumed that the maintenance work is not being treated systematically in accordance with the manual, check sheet, error log, trouble record, and so on.

The quantitative evaluation and maintenance for the equipment/system performance using the measuring instrument are not performed, while the qualitative maintenance is being performed. The preventive measures can be taken by doing a quantitative measurement detecting the sign of trouble such as the signal level changes. It seems such measurement is not properly done under the present situation.

The awareness and basic technical skill on the manipulation of measuring instruments, testing, and the equipment/system are needed for the quantitative maintenance. However, such quantitative maintenance is not being executed, and many number of the measuring instruments provided by the Original Projects are not used due to the difficulty of comprehension of English manual and so on.

Although RTA is requesting the comprehensive training for the manipulation of measuring instruments and testing procedure as part of this Follow-up Cooperation, the Follow-up Cooperation plan only includes training on part of the measuring instruments (as stated in 4-2-1). To meet the RTA's request, it is necessary to make and implement an effective plan in consideration of the technical level and skills of the engineers to be trained.

The maintenance management program (MMP) introduced by the technical cooperation project is being utilized for the inventory and check of the equipment, however, it is not properly updated, and the spare parts/consumables are not registered.

Although proximate storage location of spare parts/consumables is recognized, all spare parts/consumables shall be listed and adequately controlled. It is considered that to systematically conduct the maintenance work in accordance with the documents is an issue to be solved by RTA.

It is judged that the power supply and air-conditioning facilities, TV transmission facilities, and TV repeater facilities are well maintained, and no critical issue was found. However, the spare parts/consumables are not well arranged, and the inventory and listing are recommended. In addition, it

is strongly recommended the preparation and entry of error log and repair record with parts name used, quantity of parts, and treatment date. These records will be used as basic tool to forecast the failure in the future, and to estimate the quantity of spare parts.

The country of Afghanistan is still in the unstable circumstance, and is facing number of issues to be solved for the proper operation and maintenance of equipment/system concerned. Thus, it is considered that close cooperation among RTA and the related organizations is necessary for the settlement of problems.

Attachment

Attachment

- Attachment-1 Selected Equipment List**
- Attachment-2 Follow-up Cooperation Study Team Member**
- Attachment-3 Follow-up Cooperation Study Schedule**
- Attachment-4 Parties Concerned**
- Attachment-5 Minute of Discussion (MoD)**
- Attachment-6 Scope of Work (SW)**
- Attachment-7 List of Follow-up Cooperation Study Results**
- Attachment-8 Proposed System Diagram after Completion of Follow-up Cooperation**
- Attachment-9 Reference/Obtained Materials List**

Selected Equipment List (1/7)

Attachment 1

A-1-1

Basic Information					<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair, Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/												
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip.(*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003	
a-1	18	Equipment for Master Control Room	CD player / Stereo cassette	122MKIII	2	CD-A750	Repl.	Failure of mechanics system	A	1	1	unit	124,000	124,000	○		
a-2	29	Equipment for Master Control Room	9inch Color monitor	PVM-9L2	1	LMD-941W	Repl.	Deterioration of CRT	B	1	1	unit	330,000	330,000	○		
a-3	31	Equipment for Master Control Room	15inch Color monitor	PVM-14L4	16	LMD-1510W+BKM-341HS	Repl.	Deterioration of CRT	A	15	15	unit	154,000	2,310,000	○		
a-4	32	Equipment for Master Control Room	21inch Color monitor	PVM-20L4	1	LMD-2110W+BKM-341HS	Repl.	Deterioration of CRT	A	1	1	unit	174,000	174,000	○		
a-5	33	Equipment for Master Control Room	26inch Air monitor	KV-VA21M8J	1	KLW-32R402A	Repl.	Deterioration of CRT	B	1	1	unit	46,000	46,000	○		
a-6	35	Equipment for Master Control Room	Monitor stand	-		Custom-made	Addition	-	A	--	12	unit	20,000	240,000	○		
a-7	39	Equipment for Master Control Room	Parts for Sync Signal Generator TG700	TG700 Repair (LCD module)		-	Repair in Japan	Deterioration of LCD	A	1	1	unit	89,000	89,000	○		
a-8	8	Equipment for Production Studio	TRIAx cable (20m)	TRIAx Cable 20m		TXC20F	Repl.	Wear/ Deterioration	B	1	1	piece	131,000	131,000	○		
a-9	7	Equipment for Production Studio	Focus demand bracket	CLAMPER CR-10		(Same as requested model)	Repl.	Break	A	1	1	piece	25,000	25,000	○		
a-10	3	Equipment for Production Studio	Studio color camera pedestal	TP-64		TP-90A	Repl.	Failure of mechanics system	B	1	1	unit	5,543,000	5,543,000	○		
a-11	11	Equipment for Production Studio	Prompter with camera	WP-20B-20B		19LED On Camera Prompter	Repl.	Deterioration	B	2	2	set	3,276,000	6,552,000	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		HD/SDI Input Card	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		SLT-A65V+SAL50F18 Digital Camera	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		RMT-DSLR2 Remote Controller	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		AC-PW10AM AC Adopter (For SLT-A65V)	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		NP-FM500H Battery (For SLT-A65V)	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		BC-VW1 Battery Charger (For NP-FM500H)	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		32GB SDHC Memory Card (For SLT-A65V)	Repl.	Deterioration	B	2	2	piece	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		CS-5 Stand	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		ZR2240W LCD Monitor	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		VS182 2 Port HDMI Splitter	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		HA5 HD Coverter	Repl.	Deterioration	B	2	2	unit	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		5CFB Coaxial Cable (20m)	Repl.	Deterioration	B	2	2	piece	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		HDMI-HDMI Cable (1.2m)	Repl.	Deterioration	B	2	2	piece	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		HDMI-HDMI Cable (2m)	Repl.	Deterioration	B	2	2	piece	Included in No.11 above	Included in No.11 above	○		
a-11	11	Equipment for Production Studio	Prompter with camera(component)	-		EIA 3U Mounting Box	Repl.	Deterioration	B	2	2	Unit	Included in No.11 above	Included in No.11 above	○		
a-12	18	Equipment for Production Studio	CD player / Stereo cassette	122MKIII	2	CD-A750	Repl.	Failure of mechanics system	A	1	1	unit	124,000	124,000	○		
a-13	19	Equipment for Production Studio	Condenser microphone	C-38B	3	(Same as requested model)	Repl.	Deterioration/ Failure	A	4	4	unit	211,000	844,000	○		
a-14	20	Equipment for Production Studio	Dynamic microphone	F-780		(Same as requested model)	Repl.	Deterioration/ Failure	A	4	4	unit	41,000	164,000	○		
a-15	21	Equipment for Production Studio	Lavalier microphone, including UHF synthesized transmitter	ECM-44B+WRT-8B		(Same as requested model)	Repl.	Deterioration/ Failure	A	4	4	unit	178,000	712,000	○		

Selected Equipment List (2/7)

Attachment 1

Basic Information					<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair, Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/												
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip.(*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003	
a-16	29	Equipment for Production Studio	9inch Color monitor	PVM-9L2	1	LMD-941W	Repl.	Deterioration of CRT	B	1	1	unit	330,000	330,000	○		
a-17	30	Equipment for Production Studio	9inch Color monitor rack mount	PVM-9L2	1	LMD-941W+MB-531	Repl.	Deterioration of CRT	B	2	2	unit	330,000	660,000	○		
a-18	31	Equipment for Production Studio	15inch Color monitor	PVM-14L4	16	LMD-1510W+BKM-341HS	Repl.	Deterioration of CRT	A	8	8	unit	154,000	1,232,000	○		
a-19	32	Equipment for Production Studio	21inch Color monitor	PVM-20L4	1	LMD-2110W+BKM-341HS	Repl.	Deterioration of CRT	A	3	3	unit	174,000	522,000	○		
a-20	76	Equipment for Production Studio	SDI 4:2:2 Adapter	BKM-320D		(Same as requested model)	Addition		A	4	4	unit	44,000	176,000	○		
a-21	35	Equipment for Production Studio	Monitor stand	-		Custom-made	Addition	-	A	--	8	unit	20,000	160,000	○		
a-22	36	Equipment for Production Studio	Monitor speaker	NF-1	2	JBL4305H WX	Repl.	Failure of circuit	A	1	1	set	84,000	84,000	○		
a-23	27	Equipment for Production Studio	Stereo headphone	MDR-CD-2000	3	MDR-Z1000	Repl.	Deterioration/ Failure	B	2	2	unit	72,000	144,000	○		
a-24	28	Equipment for Production Studio	Earphone	MDR-EX17MM	15	DMK-32	Repl.	Deterioration/ Failure	B	5	5	unit	1,400	7,000	○		
a-25	39	Equipment for Production Studio	Parts for Sync Signal Generator TG700	TG700 Repair (LCD module)		-	Repair in Japan	Deterioration of LCD	A	1	1	unit	89,000	89,000	○		
a-26	4	Equipment for News Studio	Repair in Japan (focus motor drive mechanism)	17ax7.7B4 IASD SX12 (Lense focus motor drive) Repair		-	Repair in Japan	Failure of mechanics system	B	1	1	set	1,630,000	1,630,000	○		
a-27	19	Equipment for News Studio	Condenser microphone	C-38B	3	(Same as requested model)	Repl.	Deterioration/ Failure	A	2	2	unit	211,000	422,000	○		
a-28	20	Equipment for News Studio	Dynamic microphone	F-780		(Same as requested model)	Repl.	Deterioration/ Failure	A	2	2	unit	41,000	82,000	○		
a-29	21	Equipment for News Studio	Lavalier microphone, including UHF synthesized transmitter(No.143)	ECM-44B+WRT-8B		(Same as requested model)	Repl.	Deterioration/ Failure	A	2	2	unit	178,000	356,000	○		
a-30	31	Equipment for News Studio	15inch Color monitor	PVM-14L4	16	LMD-1510W+BKM-341HS	Repl.	Deterioration of CRT	A	10	10	unit	154,000	1,540,000	○		
a-31	32	Equipment for News Studio	21inch Color monitor	PVM-20L4	1	LMD-2110W+BKM-341HS	Repl.	Deterioration of CRT	A	3	3	unit	174,000	522,000	○		
a-32	34	Equipment for News Studio	32inch Floor Color monitor with stand	KV-AR29M86	1	KLV-32R402A	Repl.	Deterioration of CRT	A	1	1	unit	120,000	120,000	○		
a-33	35	Equipment for News Studio	Monitor stand	-		Custom-made	Addition	-	A	--	10	unit	20,000	200,000	○		
a-34	36	Equipment for News Studio	Control room monitor speaker	NF-1	2	JBL4305H WX	Repl.	Failure of circuit	A	1	1	set	84,000	84,000	○		
a-35	27	Equipment for News Studio	Stereo headphone	MDR-CD-2000	3	MDR-Z1000	Repl.	Deterioration/ Failure	B	3	3	unit	72,000	216,000	○		
a-36	28	Equipment for News Studio	Earphone	MDR-EX17MM	15	DMK-32	Repl.	Deterioration/ Failure	B	5	5	unit	1,400	7,000	○		
a-37	12	Equipment for News Studio	Headset for TB	CC-100		(Added according to analysis in Japan)	Repl.	Deterioration/ Failure	A	0	2	unit	53,000	106,000	○		
a-38	39	Equipment for News Studio	Parts for Sync Signal Generator TG700	TG700 Repair (LCD module)	A-1-2	-	Repair in Japan	Deterioration of LCD	A	1	1	unit	89,000	89,000	○		
a-39	48	Equipment for Editing System	Non-linear Editing System	Non-linear workstation (HP Z420C+Vegas Pro12)		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	set	8,463,000	8,463,000	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	SSM-L22F1 Color Monitor		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	SSMA-SU10 Monitor Stand		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	MSP-3 Monitor Speaker		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	MDR-7506 Headphone		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	MG-166C Audio Mixer		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	CD-A750 CD Player/Cassette Recorder		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	F-780 Dynamic Microphone		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○		
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	ST-65A Microphone Stand		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○		

A-1-2

Selected Equipment List (3/7)

Attachment 1

Basic Information						<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair. Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/										
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip.(*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	LMD-1751W Color Monitor		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○	
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	BKM-341HS Adopter		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○	
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	SU-561 Monitor Stand		(Alternative system of A/B roll editing machine)	Substitute model	-	A	2	2	unit	Included in No.48 above	Included in No.48 above	○	
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	XDS-PD1000 XDCAM Station		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○	
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	SBAC-US10 Memory Reader/Writer		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○	
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	WS-C2960S-24TC-L Switch		(Alternative system of A/B roll editing machine)	Substitute model	-	A	1	1	unit	Included in No.48 above	Included in No.48 above	○	
a-39	48	Equipment for Editing System	Non-linear Editing System(component)	PFD50DLA XDCAM Disc		(Alternative system of A/B roll editing machine)	Substitute model	-	A	20	20	piece	Included in No.48 above	Included in No.48 above	○	
a-40	27	Equipment for Editing System	Stereo headphone	MDR-CD-2000	3	MDR-Z1000	Repl.	Deterioration/ Failure	B	5	6	unit	72,000	432,000	○	
a-41	18	Equipment for Editing System	CD player / Stereo cassette	122MKIII	2	CD-A750	Repl.	Failure of mechanics system	A	0	1	unit	124,000	124,000	○	
a-42	29	Equipment for Editing System	9inch Color monitor	PVM-9L2	1	LMD-941W	Repl.	Deterioration of CRT	B	6	1	unit	330,000	330,000	○	
a-43	30	Equipment for Editing System	9inch Color monitor rack mount	PVM-9L2	1	LMD-941W+MB-531	Repl.	Deterioration of CRT	B	4	4	unit	330,000	1,320,000	○	
a-44	31	Equipment for Editing System	15inch Color monitor	PVM-14L4	16	LMD-1510W+BKM-341HS	Repl.	Deterioration of CRT	A	2	1	unit	154,000	154,000	○	
a-45	34	Equipment for Editing System	32inch Floor Color monitor with stand	KV-AR29M86	1	KLV-32R402A	Repl.	Deterioration of CRT	A	1	1	unit	120,000	120,000	○	
a-46	39	Equipment for Editing System	Parts for Sync Signal Generator TG700	TG700 Repair (LCD module)		--	Repair in Japan	Deterioration of LCD	A	1	1	unit	89,000	89,000	○	
a-47	19	Equipment for Editing System	Condenser microphone	C-38B	3	(Same as requested model)	Repl.	Deterioration/ Failure	A	1	1	unit	211,000	211,000	○	
a-48	20	Equipment for Editing System	Dynamic microphone	F-780		(Same as requested model)	Repl.	Deterioration/ Failure	A	1	1	unit	41,000	41,000	○	
a-49	21	Equipment for Editing System	Lavalier microphone, including UHF synthesized	ECM-44B+WRT-8B		(Same as requested model)	Repl.	Deterioration/ Failure	A	1	1	unit	178,000	178,000	○	
a-50	36	Equipment for Editing System	Control room monitor speaker	NF-1	2	JBL4305H WX	Repl.	Failure of circuit	A	1	1	set	84,000	84,000	○	
a-51	37	Equipment for Editing System	Stereo headphone	SRP-S420		S55+BWS20-190	Repl.	Failure of circuit	A	1	1	set	119,000	119,000	○	
a-52	28	Equipment for Editing System	Earphone	MDR-EX17MM	15	DMK-32	Repl.	Deterioration/ Failure	B	1	5	unit	1,400	7,000	○	
a-53	12	Equipment for Editing System	Headset for TB	CC-100		(Added according to analysis in Japan)	Repl.	Deterioration/ Failure	A	0	2	unit	53,000	106,000	○	
a-54	1	Equipment for ENG	SD memory camera	PMW-320K		(Alternative model of Camcorder)	Substitute model	-	A	0	8	set	1,617,000	12,936,000	○	
a-55	1	Equipment for ENG	SxS Memory Card for SD memory camera	SBS-64G1A		(Alternative model of Camcorder)	Substitute model	-	A	0	12	set	89,000	1,068,000	○	
a-56	1	Equipment for ENG	SD card adaptor for SD memory camera	MEAD-SD02		(Alternative model of Camcorder)	Substitute model	-	A	0	8	set	17,000	136,000	○	
a-57	1	Equipment for ENG	Battery pack for SD memory camera	2BP-U60		(Alternative model of Camcorder)	Substitute model	-	A	0	8	set	64,000	512,000	○	
a-58	1	Equipment for ENG	Battery charger for SD memory camera	BC-U2		(Alternative model of Camcorder)	Substitute model	-	A	0	8	set	42,000	336,000	○	
a-59	1	Equipment for ENG	Soft carrying case for SD memory camera	LC-DS300SFT		(Alternative model of Camcorder)	Substitute model	-	A	0	8	set	51,000	408,000	○	
a-60	17	Equipment for ENG	Compact mixer	KS-342		(Same as requested model)	Repl.	Failure/damage of circuit	B	2	2	unit	800,000	1,600,000	○	
a-60	17	Equipment for ENG	Compact mixer(component)	BH-1Battery Case		(Same as requested model)	Repl.	Failure/damage of circuit	B	2	2	unit	Included in No.17 above	Included in No.17 above	○	
a-60	17	Equipment for ENG	Compact mixer(component)	PS-M14 Power Supply		(Same as requested model)	Repl.	Failure/damage of circuit	B	2	2	unit	Included in No.17 above	Included in No.17 above	○	
a-60	17	Equipment for ENG	Compact mixer(component)	Conversion Cable for SUB-OUT		(Same as requested model)	Repl.	Failure/damage of circuit	B	2	2	piece	Included in No.17 above	Included in No.17 above	○	
a-61	22	Equipment for ENG	Lavalier microphone, including UHF synthesized transmitter (No.143)	ECM-77B+WRT-8B	1	(Same as requested model)	Repl.	Deterioration/ Failure	A	1	1	unit	208,200	208,200	○	

A-1-3

Selected Equipment List (4/7)

Attachment 1

Basic Information					<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair, Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/											
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip.(*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003
a-62	23	Equipment for ENG	Gun microphone	AT4073a	5	BP4073	Repl.	Deterioration/ Failure	A	8	8	unit	163,000	1,304,000	○	
a-63	23	Equipment for ENG	Hand grip	AT8408	6	Rycote MMS-2	Repl.	Deterioration/ Failure	A	8	8	piece	54,000	432,000	○	
a-64	23	Equipment for ENG	Windshield	AT8105SS	8	Rycote RWJ-4+RWS-4	Repl.	Deterioration/ Failure	A	8	8	unit	88,000	704,000	○	
a-65	23	Equipment for ENG	Carrying case for Gun Mic	Custom made	6	Custom-made	Repl.	Deterioration/ Damage	A	8	8	set	117,000	936,000	○	
a-66	24	Equipment for ENG	Fish pole	HB-3K	3	(Same as requested model)	Repl.	Deterioration/ Damage	A	3	3	unit	106,000	318,000	○	
a-66	24	Equipment for ENG	Fish pole(component)	TOMOCA 1/2AKG	3	(Same as requested model)	Repl.	Deterioration/ Damage	A	3	3	unit	Included in No.24 above	Included in No.24 above	○	
a-67	25	Equipment for ENG	Microphone cable 1.5M	EC015	8	(Same as requested model)	Repl.	Deterioration/ Damage	A	8	8	piece	2,900	23,200	○	
a-68	25	Equipment for ENG	Microphone cable 3M	EC03	8	(Same as requested model)	Repl.	Deterioration/ Damage	A	8	8	piece	3,100	24,800	○	
a-69	25	Equipment for ENG	Microphone cable 5M	EC05	16	(Same as requested model)	Repl.	Deterioration/ Damage	A	16	16	piece	3,500	56,000	○	
a-70	25	Equipment for ENG	Microphone cable 10M	EC010	16	(Same as requested model)	Repl.	Deterioration/ Damage	A	16	16	piece	4,400	70,400	○	
a-71	27	Equipment for ENG	Stereo headphone	MDR-CD-2000	3	MDR-Z1000	Repl.	Deterioration/ Failure	B	8	8	unit	72,000	576,000	○	
a-72	42	Equipment for ENG	Battery light	LB-5II		MK-L3V	Repl.	Deterioration/ Failure	A	8	8	set	485,000	3,880,000	○	
a-72	42	Equipment for ENG	Battery light(component)	-		Elite-S Battery	Repl.	Deterioration/ Failure	A	16	16	unit	Included in No.42 above	Included in No.42 above	○	
a-72	42	Equipment for ENG	Battery light(component)	-		VL-2PLUS Battery Charger	Repl.	Deterioration/ Failure	A	4	4	unit	Included in No.42 above	Included in No.42 above	○	
a-72	42	Equipment for ENG	Battery light(component)	-		A-E2MKL Battery Case	Repl.	Deterioration/ Failure	A	8	8	unit	Included in No.42 above	Included in No.42 above	○	
a-73	2	OB Van	SD Wireless Camera	DVW-707P+Wireless Function	1	PMW-320K+IDX CW-7	Repl.	Deterioration/ Failure	A	1	1	set	2,337,000	2,337,000	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		D5CE Serial Digital Converter	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		PMW-320K+IDX CW-7+D5CE	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		2BP-U60 Battery Pack	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		BC-U2 Battery Charger	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		DUO-150 Battery	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		VL-PVC1 Battery Charger	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		LC-DS300SFT Soft Carrying Case	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		Conversion Adaptor (Triax(male)-BNC)	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-73	2	OB Van	SD Wireless Camera(component)	-		Conversion Adaptor (Triax(female)-BNC)	Repl.	Deterioration/ Failure	A	1	1	set	Included in No.2 above	Included in No.2 above	○	
a-74	5	OB Van	Focus demand	FPD-400		FPD-400D	Repl.	Deterioration/ Failure	A	3	3	unit	130,000	390,000	○	
a-74	5	OB Van	Focus demand(component)	-		CC-2006 Conversion Cable	Repl.	Deterioration/ Failure	A	3	3	piece	Included in No.5 above	Included in No.5 above	○	
a-75	6	OB Van	Zoom demand	ZSD-300M		ZSD-300D	Repl.	Deterioration/ Failure	A	3	3	unit	160,000	480,000	○	
a-75	6	OB Van	Zoom demand(component)	-		CC-2012 Conversion Cable	Repl.	Deterioration/ Failure	A	3	3	piece	Included in No.6 above	Included in No.6 above	○	
a-76	9	OB Van	Carrying cases for camera	Custom made	6	CC-HD1	Repl.	Deterioration/ Damage	B	3	3	set	155,000	465,000	○	
a-77	10	OB Van	CCU DM unit for portable camera	DM-94 1-653-238-15		DM-94 1-653-238-15(repair)	Repair in Japan	Failure of circuit	A	1	1	unit	347,400	347,400	○	
a-78	13	OB Van	VTR (Repair/Overhaul)	DVW-A500P(Repair/Overhaul)	1	-	Repair in Japan	Deterioration/ Damage	A	3	2	unit	2,789,000	5,578,000	○	
a-79	16	OB Van	Audio mixer	SRP-V200	1	MG124CX	Repl.	Wear and damage of fader	B	1	1	unit	70,200	70,200	○	

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Selected Equipment List (5/7)

Attachment 1

Basic Information					<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair, Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/											
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip. (*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003
a-80	20	OB Van	Dynamic microphone	F-780		(Same as requested model)	Repl.	Deterioration/ Failure	A	1	1	unit	41,000	41,000	○	
a-81	27	OB Van	Stereo headphone	MDR-CD-2000	3	MDR-Z1000	Repl.	Deterioration/ Failure	B	2	2	unit	72,000	144,000	○	
a-82	8	OB Van	TRIAx Cable 100m	TRIAx Cable 100m		TXC100F	Repl.	Wear/ Deterioration	B	3	3	set	187,000	561,000	○	
a-83	26	OB Van	Audio Multi Cable with connectors 100m	8C50-E3(2pcs)+R460-S		(Same as requested model)	Repl.	Wear/ Deterioration	B	3	3	set	168,000	504,000	○	
a-84	12	OB Van	Headset for TB	CC-100		(Added according to analysis in Japan)	Repl.	Deterioration/ Failure	A	0	2	unit	53,000	106,000	○	
a-85	29	News Car	9inch Color monitor	PVM-9L2	1	LMD-941W	Repl.	Deterioration of CRT	B	1	1	unit	330,000	330,000	○	
a-86	30	News Car	9inch Color monitor rack mount	PVM-9L2	1	LMD-941W+MB-531	Repl.	Deterioration of CRT	B	1	1	unit	330,000	330,000	○	
a-87	38	News Car	Audio monitor speaker W/VU	Custom made	1	SP101Da	Repl.	Failure of circuit	A	1	1	unit	304,700	304,700	○	
a-88	41	News Car	VHF transceiver	VX-2200V		(Same as requested model)	Repl.	Failure of circuit	B	1	1	unit	275,000	275,000	○	
a-89	60	TV Transmitting Equipment	Audio Monitor Unit for PIE	AMT-105		SP101Da	Repl.	Failure of circuit	A	1	1	unit	588,000	588,000		○
a-90	61	TV Transmitting Equipment	Power sensor for RF power meter	MA2472B	1	MA2472D	Repl.	Failure of circuit	A	2	1	unit	207,000	207,000		○
a-91	62	TV Transmitting Equipment	Color TV receiver with antenna	KV-XA21M8J	1	LC32M400M	Repl.	Deterioration of CRT	B	2	1	unit	256,000	256,000		○
a-92	65	Power Supply Equipment	Automatic Voltage Regulator (AVR)	Type SD-3	1	AVR(specially made)	Repl.	Failure of circuit	C	1	1	unit	5,976,000	5,976,000	○	
a-93	66	Power Supply Equipment	Parts for 350kVA generator	Parts for Generator Board.	1	(Same as requested model)	Repl.	Failure	A	1	1	set	7,621,000	7,621,000	○	
a-94	58	Power Supply Equipment	Small Engine Generator	DA-5000	1	DA-6000SS	Repl.	Failure	B	1	1	unit	997,500	997,500	○	
a-95	74	Power Supply Equipment	20kVA UPS	-		SFT-20SHAX	Addition	--	B	0	1	unit	4,748,000	4,748,000	○	
a-96	70	Air Conditioning Equipment	Chilled water pump for AHU	32x32FS2G51.5		(Same as requested model)	Repl.	Failure	A	1	1	unit	261,000	261,000	○	
a-97	71	Air Conditioning Equipment	Chilled water pump for chiller	65x50FS2G53.7		(Same as requested model)	Repl.	Failure	A	1	1	unit	333,000	333,000	○	
a-98	69	Air Conditioning Equipment	Spray nozzle	Spray nozzle		Spray nozzle	Repl.	Wear/ Deterioration	A	3	6	set	178,000	1,068,000	○	
a-99	67	Air Conditioning Equipment	Air filter	Air filter (for AHU, 1 set for 3 units)		Air filter (for AHU, 1 set for 3 units)	Repl.	Wear/ Deterioration	A	1	1	set	221,000	221,000	○	
a-100	68	Air Conditioning Equipment	Roll filter	Roll filter		PS/400N	Repl.	Wear/ Deterioration	A	0	1	set	0	0		
a-101	72	Air Conditioning Equipment	Photo cell for Sectional boiler	C554A1299		AFD100+R4424D	Repl.	Deterioration/ Failure	A	1	1	piece	283,000	283,000	○	
a-102	73	Water Supply Facilities	Water pump	MTP40-5.75		(Same as requested model)	Repl.	Failure	A	2	2	unit	193,000	386,000	○	
a-103	49	Equipment for Master Control Room	Push switch	Parts for 16x1 BUS Remote Cont Panel (HPG-8848A,B)		(Same as requested model)	Spare part	Deterioration/ Failure	A	10	10	piece	4,000	40,000	○	
a-104	50	Equipment for Master Control Room	Digital video distribution amplifier	8941	3	(Same as requested model)	Spare part	Failure of circuit	A	6	6	unit	191,000	1,146,000	○	
a-105	51	Equipment for Master Control Room	Cooling Fan	F6025E24B2 DC24 V 0.125A)		751004000	Spare part	Failure of circuit	A	3	3	unit	21,000	63,000	○	
a-106	52	Equipment for Master Control Room	A/D Converter without FS	8960DEC	1	8960DEC, 8900FSS	Spare part	Failure of circuit	A	5	5	unit	540,000	2,700,000	○	
a-107	52	Equipment for Master Control Room	A/D Converter without FS	8960DEC	1	8960DEC, 8900FSS	Spare part	Failure of circuit	B	1	1	unit	540,000	540,000	○	
a-108	53	Equipment for Master Control Room	D/A Converter	8960ENC	2	(Same as requested model)	Spare part	Failure of circuit	A	2	2	unit	397,000	794,000	○	
a-109	54	Equipment for Master Control Room	Analog video distribution amplifier	TAD-201	1	(Same as requested model)	Spare part	Failure of circuit	A	4	4	unit	80,000	320,000	○	
a-110	55	Equipment for Master Control Room	Digital audio distribution amplifier	ADU-145	4	(Same as requested model)	Spare part	Failure of circuit	A	4	4	unit	127,000	508,000	○	
a-111	56	Equipment for Master Control Room	A/D Converter	ADU-115	2	(Same as requested model)	Spare part	Failure of circuit	A	2	2	unit	223,000	446,000	○	
a-112	57	Equipment for Master Control Room	D/A Converter	ADU-134	2	(Same as requested model)	Spare part	Failure of circuit	A	2	2	unit	191,000	382,000	○	
a-113	14	Equipment for News	Push switches for DFS-700AP	Push switches for DFS-700AP		(Same as requested model)	Spare part	Failure of circuit	A	1	1	set	173,000	173,000	○	
a-114	40	Equipment for News	Interface unit	BKPF-L753A		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	45,000	45,000	○	
a-115	40	Equipment for News	Interface unit	BKPF-L703A		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	52,000	52,000	○	
a-116	40	Equipment for News	Interface unit	BKPF-L653		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	56,000	56,000	○	
a-117	40	Equipment for News	Interface unit	BKPF-L642		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	312,000	312,000	○	

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Selected Equipment List (6/7)

Attachment 1

Basic Information						<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair, Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/										
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip.(*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003
a-118	40	Equipment for News	Interface unit	BKPF-L641		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	474,000	474,000	○	
a-119	40	Equipment for News	Interface unit	BKPF-L613C		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	136,000	136,000	○	
a-120	40	Equipment for News	Interface unit	BKPF-L612		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	159,000	159,000	○	
a-121	40	Equipment for News	Interface unit	BKPF-L603		(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	54,000	54,000	○	
a-122	15	Equipment for Editing System	Faders	Spare faders for Audio mixer O3D		(Same as requested model)	Substitute model	Wear and damage of fader	A	10	10	piece	1,800	18,000	○	
a-123	59	TV Transmitting Equipment	Air Filter	Air Filter for 2 kW TV transmitter		Custom-made	Spare part	Wear/ Deterioration	A	4	4	set	10,000	40,000		○
a-124	54	TV Transmitting Equipment	Analog video distribution amplifier	TAD-201	1	(Same as requested model)	Spare part	Failure of circuit	A	1	1	unit	80,000	80,000		○
a-125	64	Power Supply Equipment	Spare unit for UPS (AMA750T3)	PRS-3488D		(Same as requested model)	Spare part	(No failure)	B	1	1	unit	1,329,000	1,329,000	○	
a-126	63	Power Supply Equipment	Transfer Switch for AVR	SSK-E603E-3FD		(Same as requested model)	Spare part	(No failure)	B	1	1	unit	299,000	299,000		○
a-127	43	Lighting Equipment	Lamp for Production Studio	JP 220V-1000W C/G		JS 220V-1000WC	Consumable	Wear/ Deterioration	A	50	50	piece	15,000	750,000	○	
a-128	44	Lighting Equipment	Lamp for Production Studio	JP 220V-2000W C/G		JS 220V-2000WC	Consumable	Wear/ Deterioration	A	20	20	piece	19,000	380,000	○	
a-129	45	Lighting Equipment	Lamp for News Studio	J220V-300W		J 220V-300WF	Consumable	Wear/ Deterioration	A	50	50	piece	5,500	275,000	○	
a-130	46	Lighting Equipment	Lamp for News Studio	J220V-500W		J 220V-500WF	Consumable	Wear/ Deterioration	A	100	100	piece	5,300	530,000	○	
a-131	47	Lighting Equipment	Lamp for ENG	220V 650W for TOSHIBA UNIFOCUS 650		(Same as requested model)	Consumable	Wear/ Deterioration	A	200	200	piece	6,800	1,360,000	○	
a-132	75	Maintenance	Contact cleaner	Contact cleaner		FX1001M Air Compressor (substitute)	Consumable	-	A	10	10	piece	1,000	10,000	○	
a-133	75	Maintenance	Super bond	all-purpose type		No. 8008	Consumable	-	A	10	10	piece	1,000	10,000	○	
a-134	75	Maintenance	Air duster	Air duster		Change to FX1001M Air Compressor	Consumable	-	A	10	10	piece	1,000	10,000	○	
a-135	77	System Integration and Adjustment	System Integration and Adjustment of Non-linear Editing System	①Equipment procurement, designing system, system examination (in Japan) ②Operation guidance and training (in Japan inviting RTA)		-	Service	-	A	--	1	set	2,100,000	2,100,000	○	
a-137	78	Operation instruction and Training	Operation instruction and Training for SD Memory Camera and SD Wireless Camera	Operation guidance and training (in Japan inviting RTA staff)		-	Service	-	A	--	1	set	3,102,000	3,102,000	○	
a-138	79	Power supply and air-conditioning equipment	Emergency generator, AVR, UPS, AHU, Pump, etc.	Supervisor from Japan		-	Service	-	A	1	1	set	3,500,000	3,500,000	○	
b-1		Equipment for Master Control Room	Character generator (Procurement in the third country)	CG SUPREME	1	ConverG1 SD-SDI	Replacement (Repl.)	Failure of circuit	B	1	1	set	896,800	896,800	○	
b-2		Equipment for News Studio	Character generator (Procurement in the third country)	CG-FX		ConverG1	Repl.	Failure of circuit	A	1	1	unit	896,800	896,800	○	
b-3		Equipment for Editing System	Character generator (Procurement in the third country)	CG-FX	4	ConverG1	Repl.	Failure of circuit	A	3	3	set	896,800	2,690,400	○	
b-4		OB Van	Character generator (Procurement in the third country)	CGS/600	1	CompactCG SD-SDI	Repl.	Failure of circuit	A	1	1	set	3,071,825	3,071,825	○	
b-5	79	Equipment for Master Control Room	Intercom system key panel	MKP-12+MCP-90-12		(Same as requested model)	Repl.	Failure of circuit	B	2	2	set	21,850	43,700	○	
b-6	79	Equipment for Master Control Room	Intercom system key panel	WKP-4+MCP-90-12		(Same as requested model)	Repl.	Failure of circuit	B	1	1	set	155,325	155,325	○	
b-7	80	Equipment for Master Control Room	Character generator (Procurement in the third country)	-		-	Service	-	A	1	1	set	1,301,500	1,301,500	○	
b-7	81	Equipment for News Studio	Character generator (Procurement in the third country)	-		-	Service	-	A	1	1	set		0	○	
b-7	81	Equipment for Editing System	Character generator (Procurement in the third country)	-		-	Service	-	A	1	1	set		0	○	
b-7	82	OB Van	Character generator (Procurement in the third country)	-		-	Service	-	A	1	1	set		0	○	
b-8	79	Equipment for Master Control Room	Intercom system key panel	-		-	Service	-	A	1	3	set		0	○	
b-9		Equipment for Master Control Room	Training for digital waveform monitor	Operation Training (Engineer from agent in Pakistan)		-	Service	-	A	1	1	set		0	○	
b-9		Equipment for Master Control Room	Training for digital audio monitor	Operation Training (Engineer from agent in Pakistan)		-	Service	-	A	1	1	set		0	○	
c-1		Air Conditioning Equipment	Air Conditioning Equipment	FTXD/RXD71JVEA	2	AQ24TSL	Repl.	Deterioration/	B	4	4	set	300,000	1,200,000	○	

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Selected Equipment List (7/7)

A-1-7

Basic Information						<Note> Priority A : Equipment/Spare parts/Consumables considered essential for the system operation by Follow-up Cooperation Priority B : Equipment/Spare parts considered not essential for the system operation Priority C : Equipment without urgent request for replacement and/or repair, Equipment/Spare parts that are already discontinued, Equipment/Spare parts considered purchasable by RT/										
Procurement Place No.	Equip. Info. Sheet No.	Category	Item	Model	Failed Equip. (*1)	Alternative Model / Remarks	Classification	Trouble and Deterioration Equip.(*2)	Priority	Q'ty requested from RTA (*3)	Applied Q'ty (*4)	Unit	Quoted Unit Price (JPY)	Quoted Total Price (JPY)	Original Project in FY2002	Original Project in FY2003
N/P		Equipment for Master Control Room	Master clock system (Procurement in the third	CSD-3901		(Request was canceled)	Repl.	Failure of circuit	B	1	0	set	0	0	○	
N/P		Equipment for News Studio	Prompter with camera	WGS-12		(Request was canceled)	Addition	Deterioration of LCD	C	1	0	unit	0	0	○	
N/P		Equipment for Editing System	Parts for video switcher DVS-2000C	switch set	1	(Changed to non linear editing system)	--	Deterioration/ Failure	--	1	0	piece	0	0	○	
N/P		Equipment for Editing System	Digital video effector for A/B Roll editing system	DME-3000/PAC		(Changed to non linear editing system)	--	Failure of circuit	--	1	0	unit	0	0	○	
N/P		Equipment for Editing System	Editing control unit for A/B Roll editing system	BVE-2000		(Changed to non linear editing system)	--	Failure of circuit	--	1	0	unit	0	0	○	
N/P		Equipment for ENG	Camcorder	DVW-707P (Repair・Overhaul)	1	(Changed to SD memory camera)	--	Deterioration/ Failure	--	8	0	set	0	0	○	
N/P		OB Van	Carrying cases for tripod	Custom made	6	(Request was canceled)	Repl.	Deterioration/ Damage	C	3	0	set	308,000	0	○	
N/P		OB Van	Carrying cases for dolly	Custom made	6	(Request was canceled)	Repl.	Deterioration/ Damage	C	3	0	set	133,000	0	○	
N/P		OB Van	Microwave link system (FPU)	TVL-D500B		(Request was canceled)	Repl.	Failure of circuit	C	1	0	unit	15,000,000	0	○	
N/P		News Car	Portable digital video recorder	DVW-250P		(Changed to SD memory camera)	--	Deterioration/ Failure	--	3	0	set	0	0	○	
N/P		Power Supply Equipment	Uninterruptible power supply system (UPS)	LHM38-12		(Request was canceled)	Repl.	Deterioration of storage battery	C	90	0	piece	43,020	0	○	
N/P		Power Supply Equipment	Battery for 24V rectifier	FVL-100-6		(Request was canceled)	Repl.	Deterioration of storage battery	C	4	0	piece	160,000	0	○	
N/P		Air Conditioning Equipment	Fun coil unit	FWHM4AVE	1	(Request was canceled)	Repl.	Deterioration/ Failure	C	1	0	unit	961,000	0	○	
N/P		Air Conditioning Equipment	Heat Pump Air Conditioner	FTXD/RXD71JVEA	2	AQ24TSL	Repl.	Deterioration/ Failure	B	13	0	set	300,000	0	○	
N/P		Air Conditioning Equipment	Hot water heating Plate	PS-HR		(Request was canceled)	Repl.	Deterioration/ Failure	A	30	0	unit	158,400	0	○	
N/P		TV Transmitting Equipment	Audio modulation unit	HPB-3101		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Analog-digital converter board	HPB-3102		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Digital video equalizer board	HPB-3103		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Video modulation board	HPB-3104		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	IF amplification/linearity equalizer board	HPB-3105		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	VHF converter board	HPB-3106		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Synthesizer board	HPB-3108		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Stabilized power supply	HPB-3109		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Video power amplifier	V1200GH		Discontinued	Spare part	(No failure)	C	2	0	unit	0	0		○
N/P		TV Transmitting Equipment	Audio transmission amplifier	V600GH		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0		○
N/P		TV Transmitting Equipment	Stabilized power supply for PA	56A50VPS		(Same as requested model)	Spare part	(No failure)	C	2	0	unit	0	0		○
N/P		Power Supply Equipment	Spare unit for UPS (AMA750T3)	PRS-3487C		Discontinued	Spare part	(No failure)	C	1	0	unit	0	0	○	
N/P		Power Supply Equipment	Automatic Mains Failure Unit	DKG-205		No agent	Spare part	(No failure)	C	0	0	unit	0	0		○
N/P		Power Supply Equipment	75 kVA AVR (unit)	PS-375ex		Discontinued	Spare part	(No failure)	C	0	0	unit	0	0		○

*1 "Failed and/or Degraded Equipment from RTA" shows quantity informed by RTA before the survey in Afghanistan.
 *2 "Trouble and Deterioration Equipment" shows the equipment with problem and the equipment considered to be replaced because of deterioration according to research in Afghanistan.
 *3 "Quantity of equipment requested from RTA" shows the requested equipment by RTA at the research in Afghanistan.
 *4 "Applied Quantity" shows the selected equipment as a result of the analysis in Japan and discussion for Scope of Works.

Procurement in Japan
Procurement in Pakistan
Procurement in Afghanistan
Equipment which is not to be procured (N/P)

*JICS rate for February 2013 (1USD=84.84Yen) was used for calculation of the amount of procurement in the third country
 *The indicated is a price of the first reference model, therefore it differs from the price on the specification sheet.

Estimated Amount (Equipment)	131,150,750
Estimated Amount of DAP condition	
Transportation Expenses and Management Cost Included	150,823,363
Amount by	
FY of	
Project	
Original Project in FY2002	129,680,750
Original Project in FY2003	1,470,000
Total	131,150,750
Amount by procurement place	
Procurement in Japan (a)	120,894,400
Procurement in Pakistan (b)	9,056,350
Procurement in Afghanistan (c)	1,200,000
Total	131,150,750

Attachment-2 Follow-up Cooperation Study Team Member

	Name	Assignment	Organization	Period (2012)
1	Tomoki KANENAWA	Team Leader	Senior Representative, Japan International Cooperation Agency, Afghanistan office	Nov. 4 ~ Nov. 18
2	Daisuke FUKUZAWA	Mission Planning	Grant Aid Project Management Division 1, Financing Facilitation and Procurement Supervision Department, Japan International Cooperation Agency	Nov. 3 ~ Nov. 10
3	Masakazu ASAMIZU	Chief Consultant	Japan International Cooperation System	Nov. 3 ~ Nov. 26
4	Shun KOSAKA	Studio equipment	Japan International Cooperation System	Nov. 3 ~ Nov. 26
5	Kiyoshi IIDA	Power supply	Pantel International Co., Ltd	Nov. 3 ~ Nov. 20

Attachment-3 Follow-up Cooperation Study Schedule

	2012	Day	Schedule		
			Asamizu (Chief Consultant)/ Kosaka (Studio equipment)	Iida (Power supply)	Fukuzawa (JICA/Mission planning)
1	3-Nov	Sat	22:00 Narita (EK319/JL5095)		
2	4-Nov	Sun	⇒05:00 Dubai 12:00 Dubai (4Q204)⇒15:15 Kabul Safety briefing, meeting		
3	5-Nov	Mon	10:00 RTA(explanation of study outline, etc.) 16:00 MoD draft W/MoIC,RTA		
4	6-Nov	Tue	09:00 RTA(confirmation of study outline, schedule etc.)	15:00 MoD signing	
5	7-Nov	Wed	09:00 Transmission Site at Asmai Mt. 14:00 Discussion W/RTA for Q&A sheet		
6	8-Nov	Thu	Site survey (RTA)		EOJ (summary report)
7	9-Nov	Fri	Document study		18:20 Kabul (4Q201)⇒21:00 Dubai
8	10-Nov	Sat	Site survey (RTA)		02:55 Dubai (EK318)⇒17:20 Narita
9	11-Nov	Sun	Site survey (RTA)		
10	12-Nov	Mon	Site survey (RTA), 11:00 Hospital for Communicable Disease Project (Tax exemption)		
11	13-Nov	Tue	09:00 Site survey (Asmai Mt.)		
12	14-Nov	Wed	Site survey (09:00 Ch.1, 11:00 Youth Radio, 15:00 Repeater)		
13	15-Nov	Thu	Site survey(RTA)	Recovery of measuring equipment	
14	16-Nov	Fri	Document study		
15	17-Nov	Sat	Site survey (RTA), 14:00 Summary report and memorandum for expecting follow-up cooperation equipment list.		
16	18-Nov	Sun	Site survey(RTA), 14:00 JICA (final report)		
17	19-Nov	Mon	08:00Kabul (4Q203)⇒10:40 Dubai 14:55Dubai (EK608)⇒18:05 Karachi	18:20 Kabul (4Q201)⇒21:00 Dubai	
18	20-Nov	Tue	Site survey (Karachi) 10:00 Media Links 15:00 A&A Systems	02:55 Dubai (JL5096)⇒17:20 Narita	
19	21-Nov	Wed	Site survey (Karachi) 11:00 Channel Tek 14:30 Jaffer Brothers (Pvt) Ltd.		
20	22-Nov	Thu	Document study(Karachi)		
21	23-Nov	Fri	12:10 Karachi (EK601) ⇒13:20 Dubai		
22	24-Nov	Sat	Document study(Dubai)		
23	25-Nov	Sun	Site survey (Dubai) 10:00 SONY Professional solutions MEA FZ LLC		
24	26-Nov	Mon	02:55 Dubai (EK318) ⇒17:20 Narita		

 : Holiday (Afghanistan government)

 : Holiday (Embassy of Japan in Afghanistan, JICA Afghanistan office)

Attachment-4 Parties Concerned

Ministry of Information and Culture (MOIC)

Dr. S.M. Raheen Minister

Radio & Television of Afghanistan (RTA)

M Zarin Anzor	President of RTA
Abdul Rahman Panjshiri	International Relation Cordinator
Abdul Subhan Ghafoori	Technical General Director
Mohammad Omar	General director of maintenace
Mohammad Eissa	Director of RTA Broadcasting
Mohammad Sabor Sadazai	Vice director for RTA technical
Abdul Mahbob Ahmadi	General Broadcasting Manager
Mohammad Ehsan Amiri	Chief Engineer of RTA
Mohammad Naser Babak	Head of RTA Transmitter
Mohammad Ehssan Omary	Head of TV Station
Abdul Subhan Ghafari	Technician Department of RTA
Mirajulding Jalily	Technical Assistance
Nabi Rahimi	Power Supply Engineer

RTA Asmai Transmitting station

Mohammad Naser Babak	Head of Transmitter
Ahmad Salim Bamdard	General Operational Engineer
Mohammad Eshaq Ibrahimzada	Genaral Transmitter Engineer Radio/TV
Mohammad Masad Hashimi	Operation Engineer
Mohammad Ghul	Elactric / Technical Engineer
Mohammad Khalid Akrami	TV Transmitter Engineer
Izmarai Alkozay	Operational Engineer of RM Radio
Feda Mohammad	RM Operational Engineer

Project for Construction of Hospital for Communicable Disease

(Dai Nippon Construction)

Jitsuo Sasaki	Director
Takeshi Kato	Manager (Construction Supervisor)

Group One (Private TV Station)

Fahim Hashimy	President
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Iriana Punga Business Development Director
Adnan Waheed Marketing & Business Development

Youth Radio (97.5MHz Private Radio Station)

Arif Ahmadi Country Director
Christian Marie Senior Advisor

Media Links (Supplier in Karachi)

Hassan Fareed CEO
Fahad Hasan Sales Engineer
Syed Fakhru Hassan Manager Operation

A&A SYSTEMS (Supplier in Karachi)

Agha Muzaffar Ali
Mudasser Abbasi

Channel Tek Enterprises (Pvt.) Limited (Supplier in Karachi)

Syed Mubashir Imam Chief Executive Officer
Muhammad Umer Business Unit Head Security & Automation Products
Noman Imdad Siddiqui Cordinatr to CEO
Syed Arif Hussain Rizvi General Manager Design & Development

Jaffer Brothers (Pvt.) Limited (Supplier in Karachi)

Syed Asad Ali Manager Projects & UPMO, Projects & Machinery
Division (South)
Sabir Zaidi ACMA (UK), CGMA, Deputy General Manager,
Support Operations

Sony Professional Solutions MEA FZ LLC (SONY Dubai)

Shuji Okada General Manager, Content Creation & Systems
Marketing
Tatsuya Ikeda Senior Manager, Service & Support

**MINUTES OF DISCUSSIONS
ON THE FOLLOW-UP COOPERATION STUDY
ON
THE PROJECT FOR IMPROVEMENT OF TV BROADCASTING EQUIPMENT IN KABUL
AND
THE PROJECT FOR IMPROVEMENT OF TV BROADCASTING FACILITIES IN KABUL**

In response to a request from the Government of the Islamic Republic of Afghanistan (hereinafter referred to as "Afghanistan"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") decided to conduct a Follow-up Cooperation Study (hereinafter referred to as "the Study") on "the Project for Improvement of TV Broadcasting Equipment in Kabul" and "the Project for Improvement of TV Broadcasting Facilities in Kabul" (hereinafter referred to as "the Original Projects").

JICA dispatched the Follow-up Cooperation Study Team (hereinafter referred to as "the Team") headed by Mr. Tomoki KANENAWA, Deputy Resident Representative of JICA Afghanistan Office and the Team is scheduled to stay in the country from November 3 to 19, 2012.

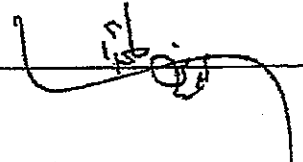
The Team held a series of discussions with Afghanistan's officials concerned and conducted a field survey.

In the course of discussions and field survey, both sides confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Follow-up Study Report.

Kabul, November 6, 2012

金 藤 知 樹

Tomoki KANENAWA
Team Leader
Follow-up Cooperation Study Team
Japan International Cooperation Agency



M. Zarin Anzor
Director General
Radio Television Afghanistan



Dr. S. M. Rahēen
Minister
Ministry of Information and Culture

ATTACHMENT

1. Outline of the Follow-up Cooperation Project

- 1-1. Objective of the follow-up cooperation project (hereinafter referred to as "the Project") is to maintain and restore the function of equipment and facilities provided through the Original Projects to the originally expected levels.
- 1-2. Viability of the implementation of the Project will be determined by JICA after the Study.
- 1-3. The Study aims at, through field survey and discussions with concerned officials, reviewing the current situation of equipment and facilities, clarifying the request from the Afghan side, and collecting necessary information for considering the Project implementation.

2. Responsible and Implementing Organization

- 2-1. The responsible organization is the Ministry of Information & Culture (MOIC). Organization chart of MOIC is shown in Annex-1.
- 2-2. The implementing organization is the Radio Television Afghanistan (RTA). Organization chart of RTA is shown in Annex-2.

3. Components of the Follow-up Cooperation Project

- 3-1. Current condition of the equipment procured in the Original Projects is informed by the Afghan side as shown in Annex-3. Both sides will confirm the condition of the equipment in the Study for considering Project components.
- 3-2. The final decision of the rationalization of the implementation and components of the Project will be determined after further studies in Japan. Such decision may also be subject to budgetary allocation by the Japanese side.

4. Schedule of the Study

- 4-1. The Team will proceed to further investigations in Afghanistan until November 19, 2012 and then proceed to procurement studies in Pakistan and the United Arab Emirates until November 26, 2012.
- 4-2. Based on the Minutes of Discussions and technical examination of the Study, JICA will inform the Afghan side of the final components of the follow up cooperation through JICA Afghanistan office around December 2012.
- 4-3. JICA will finalize the Final Report including the detailed design by March 2013 and hand it to Afghan side through JICA Afghanistan office.

5. Undertakings by the Afghan side

When the Project is decided to be implemented, the Afghan side shall take necessary measures as the following:

- (1) To secure sufficient space necessary when the Project is implemented;



- (2) To ensure prompt customs clearance of the products and to assist internal transportation of the products in Afghanistan;
- (3) To ensure that customs duties and other similar fiscal levies which may be imposed in Afghanistan with respect to the purchase of the products and the services be exempted;
- (4) To exempt Japanese nationals from internal taxes and other similar fiscal levies which may be imposed in Afghanistan with respect to the purchase of the products and the services;
- (5) To accord Japanese nationals whose services may be required in connection with the supply of equipment as may be necessary for their entry into Afghanistan and stay therein for the performance of their work, if the services above are judged necessary after further examination;
- (6) To ensure that the products be installed by RTA other than those installed in the Project;
- (7) To ensure that the products be maintained and used properly and effectively to make best use of the products in future, including purchase of all the necessary consumables for continuous use of the products;
- (8) To provide JICA with necessary information upon the request of JICA;
- (9) To bear all the expenses, other than those to be borne by the Project, necessary for the transportation and installation of the product, when necessary.

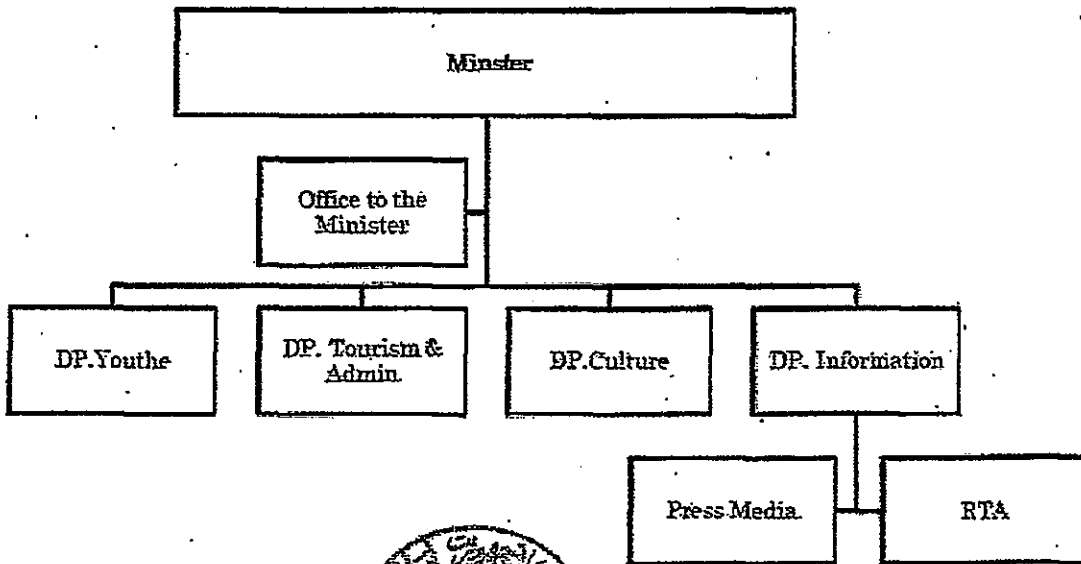
Annex-1 Organization chart of MOIC

Annex-2 Organization chart of RTA

Annex-3 Current condition of the equipment procured in the Original Project informed by the Afghan side.

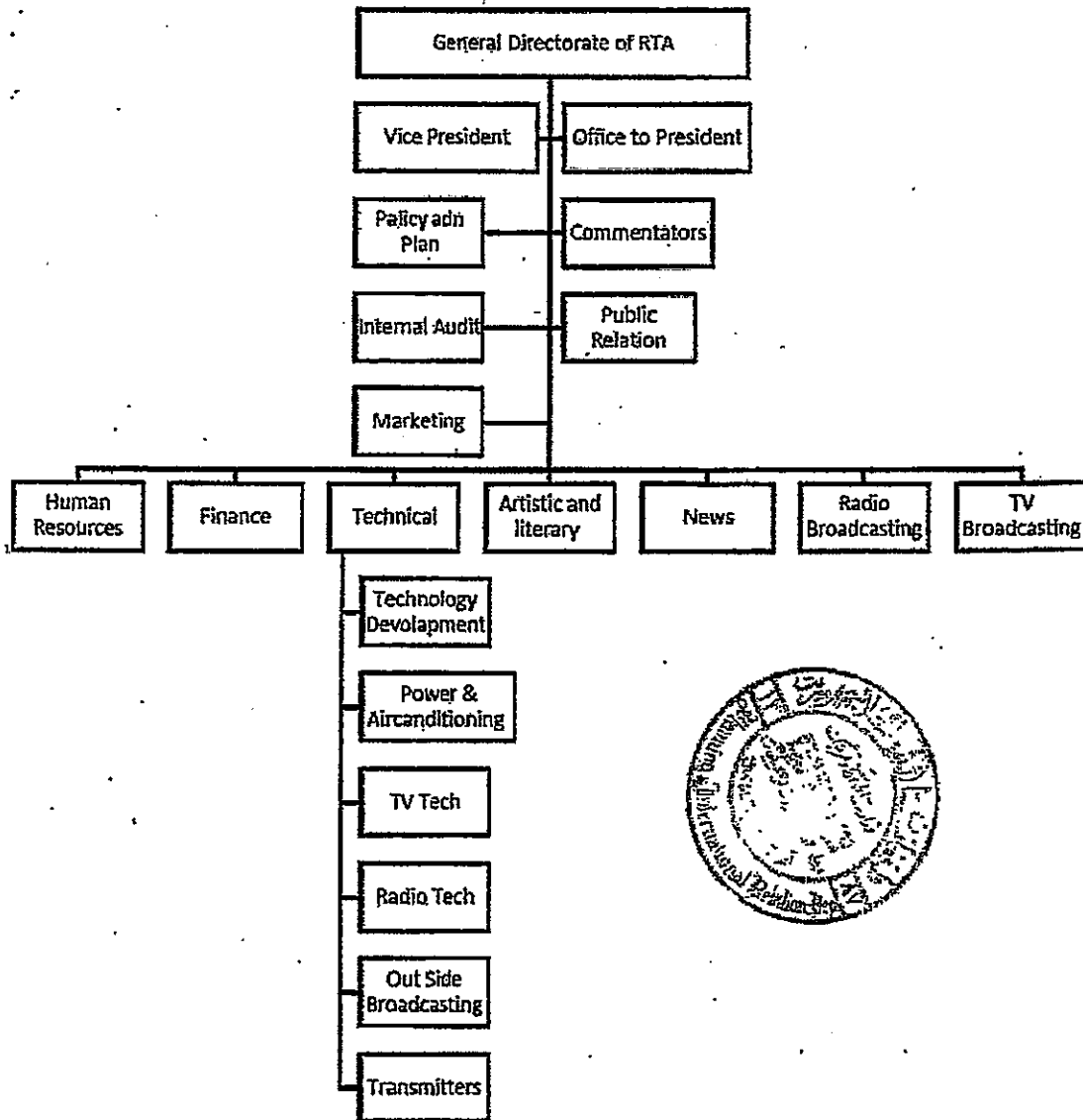


Organization Chart of MOIC



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Organization Chart of RTA



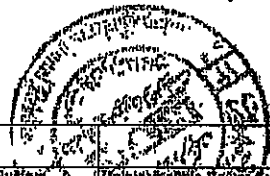
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Current Condition of the equipment and spares (Lot-1)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
1-1	Power Supply Equipment	Low Voltage Power Distribution System	Uninterruptible Power System (UPS)	1	1	Sanyo Denki	AMA76073	B	
1-2	Power Supply Equipment	Low Voltage Power Distribution System	Automatic Voltage Regulator (AVR)	1	1	Sanyo Denki	Type SD-3	C	
1-3	Power Supply Equipment	Low Voltage Power Distribution System	24V Rechargeable Battery	1	1	Sanyo Denki	CR124-50L	A	
1-4	Power Supply Equipment	Low Voltage Power Distribution System	Transformer for Lighting equipment.	1	1	Tokyo Transformer	T-TC-Q480	A	
1-5	Power Supply Equipment	Low Voltage Power Distribution System	Power Distribution Board (PDB)	1	1	Sanyo Denki	PBB36018	A	
1-6	Power Supply Equipment	Low Voltage Power Distribution System	TV Power Distribution Board (TVDB)	1	1	Sanyo Denki	PBB36013	A	
1-7	Power Supply Equipment	Power Supply System for Emergency	Diesel Generator	1	1	Sanyo Denki	SW4-340A	B	
1-8	Power Supply Equipment	Power Supply System for Emergency	Changover Board	1	1	Sanyo Denki	COB3600A	A	
1-9	Power Supply Equipment	Power Supply System for Emergency	3000 Liters Fuel Oil Service Tank	1	1	Sanyo Denki	FO13000A	A	
1-10	Power Supply Equipment	Power Supply System for Emergency	Remote Control Panel	1	1	Sanyo Denki	RMPANEL-A	A	
1-11	Power Supply Equipment	Power Supply System for Emergency	Engine Generator for STL	1	1	Danya	DA-5000	C	TV Transmitter Site
1-12	Air Conditioning Equipment	Air Handling Unit Block No.1	No.1 Air Handling Unit	1	1	Daikin Industries	AH32EBR	A	
1-13	Air Conditioning Equipment	Air Handling Unit Block No.1	No.1 Return Fan F1 for No.1 Air Handling Unit	1	1	Ebara Corporation	4.6BRM355.0	A	
1-14	Air Conditioning Equipment	Air Handling Unit Block No.1	Studio Storage Exhaust Fan F5	1	1	Ebara Corporation	1BRM354	A	
1-15	Air Conditioning Equipment	Air Handling Unit Block No.1	No.1 Chilled Water Pump P4 for No.1,2 Air Handling Unit	1	1	Ebara Corporation	66x50FB2G65.7	A	
1-16	Air Conditioning Equipment	Air Handling Unit Block No.2	No.2 Air Handling Unit	1	1	Daikin Industries	AV13EBR	B	
1-17	Air Conditioning Equipment	Air Handling Unit Block No.2	No.2 Return Fan F2 for No.2 Air Handling Unit	1	1	Ebara Corporation	3BRM353.7	A	
1-18	Air Conditioning Equipment	Air Handling Unit Block No.2	No.2 Chilled Water Pump P5 for No.3 Air Handling Unit	1	1	Ebara Corporation	32R32FB2G51.5	B	
1-19	Air Conditioning Equipment	Air Handling Unit Block No.3	No.3 Air Handling Unit	1	1	Daikin Industries	AV21EBR	A	
1-20	Air Conditioning Equipment	Air Handling Unit Block No.3	No.3 Exhaust Fan F3 for No.3 Air Handling Unit	1	1	Ebara Corporation	2BRM352.2	A	
1-21	Air Conditioning Equipment	Chiller system	Rechargeable water Chiller	1	1	Daikin Industries	UW1320B5V	A	
1-22	Air Conditioning Equipment	Chiller system	Condenser Water Pump for Chiller P2	1	1	Ebara Corporation	65x50FS2G55.7	A	
1-23	Air Conditioning Equipment	Chiller system	Chilled Water Pump for Chiller P1	1	1	Ebara Corporation	66x50FB2G65.7	A	
1-24	Air Conditioning Equipment	Air Conditioner Control Panel	Local Control Board	1	1	Takara Electric	Wall Mounted Type	A	
1-25	Air Conditioning Equipment	Air Conditioner Control Panel	Power Control Board	1	1	Takara Electric	MSS Type	A	
1-26	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Floor Type) -1	1	1	Daikin Industries	FWW4BVE	A	Office
1-27	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Floor Type) - 2	1	1	Daikin Industries	FWW4BVE	A	Office
1-28	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Floor Type) - 3	1	1	Daikin Industries	FWW4BVE	A	Boarding & Press Room
1-29	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Floor Type) - 4	1	1	Daikin Industries	FWW4BVE	A	Boarding & Press Room
1-30	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Ceiling Type) - 1	1	1	Daikin Industries	FWHM4AVE	A	Lobby
1-31	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Ceiling Type) - 2	1	1	Daikin Industries	FWHM4AVE	A	Lobby
1-32	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Ceiling Type) - 3	1	1	Daikin Industries	FWHM4AVE	C	Lobby
1-33	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-1	1	1	Daikin Industries	FXDXRXD71JVEA	A	Announce Booth
1-34	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-2	1	1	Daikin Industries	FXDXRXD71JVEA	A	Editing Room-2-1
1-35	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-3	1	1	Daikin Industries	FXDXRXD71JVEA	A	Editing Room-2-2
1-36	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-4	1	1	Daikin Industries	FXDXRXD71JVEA	A	Editing Room-2-2
1-37	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner- 1	1	1	Daikin Industries	FXDXRXD80JVEA	A	Type & Film Storage
1-38	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner- 2	1	1	Daikin Industries	FXDXRXD80JVEA	A	Type & Film Storage
1-39	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-1	1	1	Daikin Industries	FXDXRXD71JVEA	A	Editing Room-1
1-40	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-2	1	1	Daikin Industries	FXDXRXD71JVEA	A	Editing Room-1
1-41	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner-3	1	1	Daikin Industries	FXDXRXD71JVEA	C	Editing Room-1
1-42	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner	1	1	Daikin Industries	FXDXRXD80JVEA	A	Editing Room-3
1-43	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner	1	1	Daikin Industries	FXDXRXD80JVEA	A	Editing Room-4
1-44	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner	1	1	Daikin Industries	FXDXRXD71JVEA	A	Editing Room-8
1-45	Lighting Equipment	Lighting Equipment for Production Studio	Dimmer Cabinet for Production Studio	1	1	MARUMO	Type-MD System	A	
1-46	Lighting Equipment	Lighting Equipment for Production Studio	Lighting Control Console for Production Studio	1	1	MARUMO	DURJ System	A	
1-47	Lighting Equipment	Lighting Equipment for Production Studio	Lighting Equipment for Production Studio	1	1	MARUMO	FQH-1000WS2	A	
1-48	Lighting Equipment	Lighting Equipment for Production Studio	Outlet Box for Production Studio	1	1	MARUMO	WCG-G33	A	
1-49	Lighting Equipment	Lighting Equipment for Production Studio	Accessories for Production Studio	1	1	MARUMO	HAK-1	A	
1-50	Lighting Equipment	Lighting Equipment for Production Studio	Lamp for Production Studio	1	1	MARUMO	--	A	
1-51	Lighting Equipment	Lighting Equipment for News Studio	Dimmer Cabinet for News Studio	1	1	MARUMO	Type-MD System	A	
1-52	Lighting Equipment	Lighting Equipment for News Studio	Lighting Control Console (Wall Mounted) for News Studio	1	1	MARUMO	****	A	
1-53	Lighting Equipment	Lighting Equipment for News Studio	Lighting Equipment for News Studio	1	1	MARUMO	FQH-1000WS2	A	
1-54	Lighting Equipment	Lighting Equipment for News Studio	Outlet Box for News Studio	1	1	MARUMO	WCG-G32	A	
1-55	Lighting Equipment	Lighting Equipment for News Studio	Outlet Box for News Studio	1	1	MARUMO	WCG-G37	A	
1-56	Lighting Equipment	Lighting Equipment for News Studio	Accessories for News Studio	1	1	MARUMO	HAK-1	A	
1-57	Lighting Equipment	Lighting Equipment for News Studio	Lamp for News Studio	1	1	MARUMO	--	A	
1-58	Measuring Equipment and Maintenance Tool for Power Supply Equipment, Air Conditioning Equipment and Lighting	Measuring equipment and air conditioning equipment tool	Clamp meter	1	1	Hoki EE Corp.	2282	A	

A-5-6



Current Condition of the equipment and spares (Lot-1)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
1-59	Measuring Equipment and Maintenance Tool for Power Supply Equipment, Air Conditioning Equipment and Lighting	Measuring Equipment for power source equipment and air conditioning equipment tool	Phase Detector	1		Hicki EE Corp.	3120	A	
1-60	Measuring Equipment and Maintenance Tool for Power Supply Equipment, Air Conditioning Equipment and Lighting	Measuring Equipment for power source equipment and air conditioning equipment tool	Insulation resistance tester	1		Yokogawa M&C Corp.	321344	A	
1-61	Measuring Equipment and Maintenance Tool for Power Supply Equipment, Air Conditioning Equipment and Lighting	Measuring Equipment for power source equipment and air conditioning equipment tool	Noise meter	1		Ono Sokki	LA1210	A	
1-62	Measuring Equipment and Maintenance Tool for Power Supply Equipment, Air Conditioning Equipment and Lighting	Measuring Equipment for power source equipment and air conditioning equipment tool	Digital temperature gauge	1		Hicki EE Corp.	3441 & 9472	A	
1-63	Measuring Equipment and Maintenance Tool for Power Supply Equipment, Air Conditioning Equipment and Lighting	Tools for Power source and air conditioning equipment	Tool set	1		Izum Products	****	A	
1-64	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Spare parts / Power source equipment spare parts	Automatic voltage Regulator spare parts	1		Sanyo Denki	****	C	
1-65	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Spare parts / Power source equipment spare parts	Uninterruptible power supply spare parts	1		Sanyo Denki	****	A	
1-66	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Spare parts / Power source equipment spare parts	24V Rectifier and B battery spare parts	1		Sanyo Denki	****	C	
1-67	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Spare parts / Power source equipment spare parts	Diesel engine generator spare parts	1		Sanyo Denki	****	A	
1-68	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Spare parts / Air conditioning equipment spare parts	Air conditioner spare parts	3		Daikin Industries	****	A	
1-69	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Spare parts / Air conditioning equipment spare parts	Cooler spare parts	1		Daikin Industries	****	A	
1-70	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Expendable items / Power source equipment expendable items	Filters	6		Sanyo Denki	****	A	
1-71	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Expendable items / Power source equipment expendable items	Fan belts	25		Sanyo Denki	****	A	
1-72	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Expendable items / Power source equipment expendable items	Anti-freeze solution	1		Sanyo Denki	****	A	
1-73	Spare Parts for Power Supply Equipment and Air Conditioning Equipment	Expendable items / Air conditioning equipment expendable items	Air conditioning air filters	5		Daikin Industries	****	A	

A-5-7

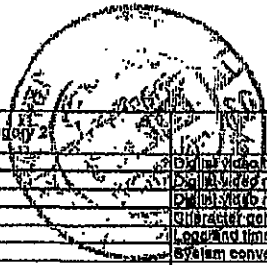


Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-1	Equipment for Master Control Room	Video Equipment	Digital video recorder - 1	1	1	SONY	DVM-A800P	B	
2-2	Equipment for Master Control Room	Video Equipment	Digital video recorder - 2	1	1	SONY	DVM-A800P	B	
2-3	Equipment for Master Control Room	Video Equipment	Digital video recorder - 3	1	1	SONY	DVM-A800P	B	
2-4	Equipment for Master Control Room	Video Equipment	Character generator	1	1	INSCRIBER Japan	CS SUPREME	C	
2-5	Equipment for Master Control Room	Video Equipment	Log and time generator	1	1	FOR-A	LG-300 VTC-5PB	D	
2-6	Equipment for Master Control Room	Video Equipment	System converter - 1	1	1	SNELL & WILCOX	CVR480	A	
2-7	Equipment for Master Control Room	Video Equipment	System converter - 2	1	1	SNELL & WILCOX	CVR480	A	
2-8	Equipment for Master Control Room	Video Equipment	System converter - 3	1	1	SNELL & WILCOX	CVR480	A	
2-9	Equipment for Master Control Room	Video Equipment	VITS inserter	1	1	TEKTRONIX Japan	VITS201	A	
2-10	Equipment for Master Control Room	Video Equipment	Inserter - 1	1	1	LEITCH Japan	DSK-8801	A	
2-11	Equipment for Master Control Room	Video Equipment	Inserter - 2	1	1	LEITCH Japan	DSK-8801	A	
2-12	Equipment for Master Control Room	Video Equipment	Inserter - 3	1	1	LEITCH Japan	DSK-8801	A	
2-13	Equipment for Master Control Room	Video Equipment	Video master mixer	1	1	NEC	HSMK-2000	A	
2-14	Equipment for Master Control Room	Video Equipment	Digital video switcher	1	1	LEITCH Japan	VIA-32x48-AB1	A	
2-15	Equipment for Master Control Room	Video Equipment	2X1 V/A Switcher - 1	1	1	NEC	*****	A	
2-16	Equipment for Master Control Room	Video Equipment	2X1 V/A Switcher - 2	1	1	NEC	*****	A	
2-17	Equipment for Master Control Room	Video Equipment	2X1 V/A Switcher - 3	1	1	NEC	*****	A	
2-18	Equipment for Master Control Room	Video Equipment	3X1 V/A Switcher	1	1	NEC	*****	A	
2-19	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 1	1	1	GVG Japan	8841	B	
2-20	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 2	1	1	GVG Japan	8841	B	
2-21	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 3	1	1	GVG Japan	8841	B	
2-22	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 4	1	1	GVG Japan	8841	B	
2-23	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 5	1	1	GVG Japan	8841	A	
2-24	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 6	1	1	GVG Japan	8841	B	
2-25	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 7	1	1	GVG Japan	8841	B	
2-26	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 8	1	1	GVG Japan	8841	B	
2-27	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 9	1	1	GVG Japan	8841	B	
2-28	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 10	1	1	GVG Japan	8841	C	
2-29	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 11	1	1	GVG Japan	8841	B	
2-30	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 12	1	1	GVG Japan	8841	B	
2-31	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 13	1	1	GVG Japan	8841	A	
2-32	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 14	1	1	GVG Japan	8841	A	
2-33	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 15	1	1	GVG Japan	8841	A	
2-34	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 16	1	1	GVG Japan	8841	B	
2-35	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 17	1	1	GVG Japan	8841	B	
2-36	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 18	1	1	GVG Japan	8841	B	
2-37	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 19	1	1	GVG Japan	8841	A	
2-38	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 20	1	1	GVG Japan	8841	B	
2-39	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 21	1	1	GVG Japan	8841	C	
2-40	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 22	1	1	GVG Japan	8841	B	
2-41	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 23	1	1	GVG Japan	8841	B	
2-42	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 24	1	1	GVG Japan	8841	D	
2-43	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 25	1	1	GVG Japan	8841	B	
2-44	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 26	1	1	GVG Japan	8841	B	
2-45	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 27	1	1	GVG Japan	8841	B	
2-46	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier - 28	1	1	GVG Japan	8841	B	
2-47	Equipment for Master Control Room	Video Equipment	A/D Converter with FS - 1	1	1	GVG Japan	8880DEC, 8800FS3	B	
2-48	Equipment for Master Control Room	Video Equipment	A/D Converter with PA - 2	1	1	GVG Japan	8880DEC, 8800FS6	C	
2-49	Equipment for Master Control Room	Video Equipment	A/D Converter with FS - 3	1	1	GVG Japan	8880DEC, 8800FS3	B	
2-50	Equipment for Master Control Room	Video Equipment	A/D Converter with FS - 4	1	1	GVG Japan	8880DEC, 8800FS3	B	
2-51	Equipment for Master Control Room	Video Equipment	D/A Converter - 1	1	1	GVG Japan	8880ENC	C	
2-52	Equipment for Master Control Room	Video Equipment	D/A Converter - 2	1	1	GVG Japan	8880ENC	C	
2-53	Equipment for Master Control Room	Video Equipment	D/A Converter - 3	1	1	GVG Japan	8880ENC	C	
2-54	Equipment for Master Control Room	Video Equipment	Analog video distribution amplifier - 1	1	1	NEC	TAD-201	C	
2-55	Equipment for Master Control Room	Video Equipment	Analog video distribution amplifier - 2	1	1	NEC	TAD-201	B	
2-56	Equipment for Master Control Room	Video Equipment	Analog video distribution amplifier - 3	1	1	NEC	TAD-201	B	
2-57	Equipment for Master Control Room	Video Equipment	Video jack field - 1	1	1	CANARE	201U-DVJW	A	
2-58	Equipment for Master Control Room	Video Equipment	Video jack field - 2	1	1	CANARE	201U-DVJW	A	
2-59	Equipment for Master Control Room	Audio Equipment	Audio master mixer	1	1	NEC	ADSW-2000	A	
2-60	Equipment for Master Control Room	Audio Equipment	Digital audio switcher	1	1	LEITCH Japan	VIA-32x16AES-C	A	
2-61	Equipment for Master Control Room	Audio Equipment	2X1 Audio switcher	1	1	NEC	*****	A	
2-62	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 1	1	1	NEC	ADU-140	B	

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Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)



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Ref. No.	Category 1	Category 2	Item	Original Q'ty	Current Q'ty	Maker	Model	Current Condition	Remarks
2-03	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 2	1	1	NEC	ADU-145	B	
2-04	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 3	1	1	NEC	ADU-145	B	
2-05	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 4	1	1	NEC	ADU-145	B	
2-06	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 5	1	1	NEC	ADU-145	B	
2-07	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 6	1	1	NEC	ADU-145	B	
2-08	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 7	1	1	NEC	ADU-145	B	
2-09	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 8	1	1	NEC	ADU-145	B	
2-10	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 9	1	1	NEC	ADU-145	B	
2-11	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 10	1	1	NEC	ADU-145	B	
2-12	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 11	1	1	NEC	ADU-145	B	
2-13	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 12	1	1	NEC	ADU-145	B	
2-14	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 13	1	1	NEC	ADU-145	B	
2-15	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 14	1	1	NEC	ADU-145	B	
2-16	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 15	1	1	NEC	ADU-145	B	
2-17	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 16	1	1	NEC	ADU-145	B	
2-18	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 17	1	1	NEC	ADU-145	B	
2-19	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 18	1	1	NEC	ADU-145	B	
2-20	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 19	1	1	NEC	ADU-145	B	
2-21	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 20	1	1	NEC	ADU-145	B	
2-22	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 21	1	1	NEC	ADU-145	B	
2-23	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 22	1	1	NEC	ADU-145	B	
2-24	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 23	1	1	NEC	ADU-145	B	
2-25	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 24	1	1	NEC	ADU-145	B	
2-26	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 25	1	1	NEC	ADU-145	B	
2-27	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier - 26	1	1	NEC	ADU-145	B	
2-28	Equipment for Master Control Room	Audio Equipment	Analog audio distribution amplifier - 1	1	1	GVG Japan	8910ADA-ST	B	
2-29	Equipment for Master Control Room	Audio Equipment	Analog audio distribution amplifier - 2	1	1	GVG Japan	8910ADA-ST	B	
2-30	Equipment for Master Control Room	Audio Equipment	Analog audio distribution amplifier - 3	1	1	GVG Japan	8910ADA-ST	B	
2-31	Equipment for Master Control Room	Audio Equipment	Audio level controller - 1	1	1	APEX Japan	Mds0320A	A	
2-32	Equipment for Master Control Room	Audio Equipment	Audio level controller - 2	1	1	APEX Japan	Mds0320A	A	
2-33	Equipment for Master Control Room	Audio Equipment	Audio level controller - 3	1	1	APEX Japan	Mds0320A	A	
2-34	Equipment for Master Control Room	Audio Equipment	DAT Recorder	1	1	SONY	PCM-7040	C	
2-35	Equipment for Master Control Room	Audio Equipment	CD Recorder	1	1	SONY	CDR-W66	C	
2-36	Equipment for Master Control Room	Audio Equipment	Stereo cassette recorder	1	1	TASCAM	122MKIII	C	
2-37	Equipment for Master Control Room	Audio Equipment	A/D Converter - 1	1	1	NEC	ADU-115	B	
2-38	Equipment for Master Control Room	Audio Equipment	A/D Converter - 2	1	1	NEC	ADU-115	B	
2-39	Equipment for Master Control Room	Audio Equipment	A/D Converter - 3	1	1	NEC	ADU-115	B	
2-40	Equipment for Master Control Room	Audio Equipment	A/D Converter - 4	1	1	NEC	ADU-115	B	
2-100	Equipment for Master Control Room	Audio Equipment	A/D Converter - 5	1	1	NEC	ADU-115	B	
2-101	Equipment for Master Control Room	Audio Equipment	A/D Converter - 6	1	1	NEC	ADU-115	B	
2-102	Equipment for Master Control Room	Audio Equipment	A/D Converter - 7	1	1	NEC	ADU-115	B	
2-103	Equipment for Master Control Room	Audio Equipment	A/D Converter - 8	1	1	NEC	ADU-115	B	
2-104	Equipment for Master Control Room	Audio Equipment	D/A Converter - 1	1	1	NEC	ADU-134	B	
2-105	Equipment for Master Control Room	Audio Equipment	D/A Converter - 2	1	1	NEC	ADU-134	B	
2-106	Equipment for Master Control Room	Audio Equipment	D/A Converter - 3	1	1	NEC	ADU-134	B	
2-107	Equipment for Master Control Room	Audio Equipment	D/A Converter - 4	1	1	NEC	ADU-134	B	
2-108	Equipment for Master Control Room	Audio Equipment	D/A Converter - 5	1	1	NEC	ADU-134	B	
2-109	Equipment for Master Control Room	Audio Equipment	D/A Converter - 6	1	1	NEC	ADU-134	B	
2-110	Equipment for Master Control Room	Audio Equipment	D/A Converter - 7	1	1	NEC	ADU-134	B	
2-111	Equipment for Master Control Room	Audio Equipment	Audio Jack field - 1	1	1	CANARE	281U-DVJW 48WH	B	
2-112	Equipment for Master Control Room	Audio Equipment	Audio Jack field - 2	1	1	CANARE	281U-DVJW 48WH	B	
2-113	Equipment for Master Control Room	Audio Equipment	Audio Jack field - 3	1	1	CANARE	281U-DVJW 48WH	B	
2-114	Equipment for Master Control Room	Monitoring Equipment	VE Monitor	1	1	SONY	BVM-14P6E	B	
2-115	Equipment for Master Control Room	Monitoring Equipment	Digital waveform monitor	1	1	TEKTRONIX Japan	WFM-801A	A	
2-116	Equipment for Master Control Room	Monitoring Equipment	Digital audio monitor	1	1	TEKTRONIX Japan	704	C	
2-117	Equipment for Master Control Room	Monitoring Equipment	9inch Color monitor - 1	1	1	SONY	PVM-9L2	C	
2-118	Equipment for Master Control Room	Monitoring Equipment	9inch Color monitor - 2	1	1	SONY	PVM-9L2	C	
2-119	Equipment for Master Control Room	Monitoring Equipment	9inch Color monitor - 3	1	1	SONY	PVM-9L2	C	
2-120	Equipment for Master Control Room	Monitoring Equipment	14inch Color monitor - 1	1	1	SONY	PVM-14L1	C	
2-121	Equipment for Master Control Room	Monitoring Equipment	14inch Color monitor - 2	1	1	SONY	PVM-14L1	C	
2-122	Equipment for Master Control Room	Monitoring Equipment	14inch Color monitor - 3	1	1	SONY	PVM-14L1	C	
2-123	Equipment for Master Control Room	Monitoring Equipment	14inch Color monitor - 4	1	1	SONY	PVM-14L1	C	
2-124	Equipment for Master Control Room	Monitoring Equipment	14inch Color monitor - 5	1	1	SONY	PVM-14L1	C	

Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

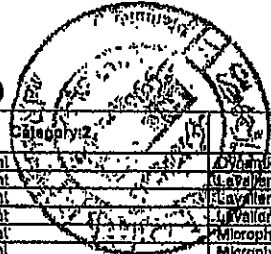
Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-125	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 8	1	1	SONY	PVM-141A	C	
2-126	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 7	1	1	SONY	PVM-141A	C	
2-127	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 8	1	1	SONY	PVM-141A	C	
2-128	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 9	1	1	SONY	PVM-141A	C	
2-129	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 10	1	1	SONY	PVM-141A	C	
2-130	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 11	1	1	SONY	PVM-141A	C	
2-131	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 12	1	1	SONY	PVM-141A	C	
2-132	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 13	1	1	SONY	PVM-141A	C	
2-133	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 14	1	1	SONY	PVM-141A	C	
2-134	Equipment for Master Control Room	Monitoring Equipment	14 inch color monitor - 15	1	1	SONY	PVM-141A	C	
2-135	Equipment for Master Control Room	Monitoring Equipment	20 inch color monitor	1	1	SONY	PVM-201A	C	
2-136	Equipment for Master Control Room	Monitoring Equipment	20 inch Air monitor	1	1	SONY	KV-XA21MBJ	C	
2-137	Equipment for Master Control Room	Monitoring Equipment	Speaker & Amplifier	1	1	NEC	*****	B	
2-138	Equipment for Master Control Room	Monitoring Equipment	ON-AIR Tally box	1	1	NEC	*****	A	
2-139	Equipment for Master Control Room	Monitoring Equipment	ON-AIR Tally light	1	1	NEC	*****	A	
2-140	Equipment for Master Control Room	Syna Signal Generator	Syna signal generator system	1	1	ELECTRONIX Japan	TG700	A	
2-141	Equipment for Master Control Room	Intercom System	Intercom system	1	1	RTS Japan	ZBUS	A	
2-142	Equipment for Master Control Room	Operation Console and Rack	System rack - 1	1	1	NEC	BRK	A	
2-143	Equipment for Master Control Room	Operation Console and Rack	System rack - 2	1	1	NEC	BRK	A	
2-144	Equipment for Master Control Room	Operation Console and Rack	System rack - 3	1	1	NEC	BRK	A	
2-145	Equipment for Master Control Room	Operation Console and Rack	System rack - 4	1	1	NEC	BRK	A	
2-146	Equipment for Master Control Room	Operation Console and Rack	System rack - 5	1	1	NEC	BRK	A	
2-147	Equipment for Master Control Room	Operation Console and Rack	Monitor chair	1	1	NEC	*****	A	
2-148	Equipment for Master Control Room	Operation Console and Rack	Operation console	1	1	NEC	BCN	A	
2-149	Equipment for Master Control Room	Operation Console and Rack	Operation panel & table	1	1	NEC	*****	A	
2-150	Equipment for Master Control Room	Operation Console and Rack	Operation table for C/B	1	1	OKAMURA	*****	A	
2-151	Equipment for Master Control Room	Operation Console and Rack	Operation chair - 1	1	1	OKAMURA	CG2402-FM	B	
2-152	Equipment for Master Control Room	Operation Console and Rack	Operation chair - 2	1	1	OKAMURA	CG2402-FM	A	
2-153	Equipment for Master Control Room	Operation Console and Rack	Operation chair - 3	1	1	OKAMURA	CG2402-FM	A	
2-154	Equipment for Master Control Room	Operation Console and Rack	Operation chair - 4	1	1	OKAMURA	CG2402-FM	A	
2-155	Equipment for Master Control Room	VHF Communication System	VHF Transceiver	1	1	VERTEX Japan	VX-2000V	A	
2-156	Equipment for Master Control Room	Other Equipment	Clock system	1	1	LEITCH Japan	095-3801	A	
2-157	Equipment for Production Studio	Video Equipment	Studio color camera system 16X Lens, hoodless - 1	1	1	SONY	BVP-E10P	A	
2-158	Equipment for Production Studio	Video Equipment	Studio color camera system 16X Lens, hoodless - 2	1	1	SONY	BVP-E10P	A	
2-159	Equipment for Production Studio	Video Equipment	Studio color camera system 16X Lens, chana	1	1	SONY	BVP-E10P	A	
2-160	Equipment for Production Studio	Video Equipment	Digital video switcher for Production studio	1	1	SONY	DVS-200DG	C	
2-161	Equipment for Production Studio	Video Equipment	Digital video effector for Production studio	1	1	SONY	DME-3000/PAC	A	
2-162	Equipment for Production Studio	Video Equipment	Digital video recorder TBC Remote, Remote CP - 1	1	1	SONY	DVM-A600P	B	
2-163	Equipment for Production Studio	Video Equipment	Digital video recorder TBC Remote, Remote CP - 2	1	1	SONY	DVM-A600P	B	
2-164	Equipment for Production Studio	Video Equipment	Digital video player TBC Remote, Remote CP	1	1	SONY	DVM-A600P	B	
2-165	Equipment for Production Studio	Video Equipment	Digital video remote switcher	1	1	LEITCH Japan	X116W/S	A	
2-166	Equipment for Production Studio	Video Equipment	Interface unit for Production studio	1	1	SONY	PRV-L10/PAC	A	
2-167	Equipment for Production Studio	Video Equipment	Video patch panel for Production studio	1	1	CANARE	261U-DV/JW	B	
2-168	Equipment for Production Studio	Video Equipment	Camera connecting plate for Production studio	1	1	SONY	*****	A	
2-169	Equipment for Production Studio	Video Equipment	AV Connecting plate for Production studio	1	1	SONY	*****	A	
2-170	Equipment for Production Studio	Video Equipment	AV Connecting box - 1	1	1	SONY	*****	A	
2-171	Equipment for Production Studio	Video Equipment	AV Connecting box - 2	1	1	SONY	*****	A	
2-172	Equipment for Production Studio	Video Equipment	ON-AIR Lamp	1	1	SONY	*****	A	
2-173	Equipment for Production Studio	Video Equipment	Test chart for Camera	1	1	MURAKAMI	GS-3/A-2	A	
2-174	Equipment for Production Studio	Audio Equipment	Digital audio mixer for Production studio	1	1	STUDER Japan	Gr-A1200Mik(16/A)	A	
2-175	Equipment for Production Studio	Audio Equipment	DAT Recorder	1	1	SONY	PCM-7080	B	
2-176	Equipment for Production Studio	Audio Equipment	CD Recorder	1	1	SONY	CDR-W66	A	
2-177	Equipment for Production Studio	Audio Equipment	MD Recorder	1	1	TASCAM	MD-801RmkII	A	
2-178	Equipment for Production Studio	Audio Equipment	Stereo cassette recorder	1	1	TASCAM	12RMKII	C	
2-179	Equipment for Production Studio	Audio Equipment	Digital delay	1	1	SONY	SRP-L300	A	
2-180	Equipment for Production Studio	Audio Equipment	Condenser microphone - 1	1	1	SONY	C-38B	B	
2-181	Equipment for Production Studio	Audio Equipment	Condenser microphone - 2	1	1	SONY	C-38B	B	
2-182	Equipment for Production Studio	Audio Equipment	Condenser microphone - 3	1	1	SONY	C-38B	B	
2-183	Equipment for Production Studio	Audio Equipment	Condenser microphone - 4	1	1	SONY	C-38B	B	
2-184	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 1	1	1	SONY	F-780	A	
2-185	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 2	1	1	SONY	F-780	A	
2-186	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 3	1	1	SONY	F-780	A	

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Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repoked, C=Fault)



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Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-197	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 4	1	1	SONY	F-700	A	
2-198	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 1	1	1	SONY	ECM-44B	B	
2-199	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 2	1	1	SONY	ECM-44B	A	
2-199	Equipment for Production Studio	Audio Equipment	Dynamic microphone - 3	1	1	SONY	ECM-44B	A	
2-191	Equipment for Production Studio	Audio Equipment	Microphone boom stand small - 1	1	1	SONY	B-3050	A	
2-192	Equipment for Production Studio	Audio Equipment	Microphone boom stand small - 2	1	1	SONY	B-3050	A	
2-193	Equipment for Production Studio	Audio Equipment	Microphone boom stand small - 3	1	1	SONY	B-3050	A	
2-194	Equipment for Production Studio	Audio Equipment	Microphone boom stand small - 4	1	1	SONY	B-3050	A	
2-195	Equipment for Production Studio	Audio Equipment	Microphone floor stand - 1	1	1	SONY	B-500A	A	
2-196	Equipment for Production Studio	Audio Equipment	Microphone floor stand - 2	1	1	SONY	B-500A	A	
2-197	Equipment for Production Studio	Audio Equipment	Microphone floor stand - 3	1	1	SONY	B-500A	A	
2-198	Equipment for Production Studio	Audio Equipment	Microphone floor stand - 4	1	1	SONY	B-500A	A	
2-199	Equipment for Production Studio	Audio Equipment	Microphone connector panel - 1	1	1	SONY	*****	A	
2-200	Equipment for Production Studio	Audio Equipment	Microphone connector panel - 2	1	1	SONY	*****	A	
2-201	Equipment for Production Studio	Audio Equipment	Mull Microphone cable VWRad - 1	1	1	SONY	*****	A	
2-202	Equipment for Production Studio	Audio Equipment	Mull Microphone cable VWRad - 2	1	1	SONY	*****	A	
2-203	Equipment for Production Studio	Audio Equipment	Microphone connector box - 1	1	1	CANARE	8B1N2	A	
2-204	Equipment for Production Studio	Audio Equipment	Microphone connector box - 2	1	1	CANARE	8B1N2	A	
2-205	Equipment for Production Studio	Audio Equipment	Microphone cable	1	1	CANARE	EC05EC10	A	
2-206	Equipment for Production Studio	Audio Equipment	Interface link for Production studio	1	1	SONY	PFVL10PAC	A	
2-207	Equipment for Production Studio	Audio Equipment	Audio patch panel for Production studio	1	1	CANARE	2010DVJVV	A	
2-208	Equipment for Production Studio	Audio Equipment	UHF Synthesized transmitter - 1	1	1	SONY	WRT-8B	A	
2-209	Equipment for Production Studio	Audio Equipment	UHF Synthesized transmitter - 2	1	1	SONY	WRT-8B	A	
2-210	Equipment for Production Studio	Monitoring Equipment	VE Monitor	1	1	SONY	BVM-1475E	A	
2-211	Equipment for Production Studio	Monitoring Equipment	VFMMS for Production studio	1	1	TEKTRONIX Japan	1721	A	
2-212	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor	1	1	SONY	PVM-9L2	B	
2-213	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor Rack mount	1	1	SONY	PVM-9L2	B	
2-214	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor Rack mount, Attachment	1	1	SONY	PVM-9L2	B	
2-215	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 1	1	1	SONY	PVM-14L1	C	
2-216	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 2	1	1	SONY	PVM-14L1	B	
2-217	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 3	1	1	SONY	PVM-14L1	B	
2-218	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 4	1	1	SONY	PVM-14L1	B	
2-219	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 5	1	1	SONY	PVM-14L1	B	
2-220	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 6	1	1	SONY	PVM-14L1	B	
2-221	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 7	1	1	SONY	PVM-14L1	B	
2-222	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor - 8	1	1	SONY	PVM-14L1	B	
2-223	Equipment for Production Studio	Monitoring Equipment	20inch Color monitor - 1	1	1	SONY	PVM-20L1	B	
2-224	Equipment for Production Studio	Monitoring Equipment	20inch Color monitor - 2	1	1	SONY	PVM-20L1	B	
2-225	Equipment for Production Studio	Monitoring Equipment	20inch Color monitor - 3	1	1	SONY	PVM-20L1	B	
2-226	Equipment for Production Studio	Monitoring Equipment	20inch Color monitor - 4	1	1	SONY	PVM-20L1	B	
2-227	Equipment for Production Studio	Monitoring Equipment	20inch Floor Color monitor with Stand - 1	1	1	SONY	KV-AR20M86	A	
2-228	Equipment for Production Studio	Monitoring Equipment	20inch Floor Color monitor with Stand - 2	1	1	SONY	KV-AR20M86	A	
2-229	Equipment for Production Studio	Monitoring Equipment	Control room monitor speaker	1	1	FORTEX	NF-1	C	
2-230	Equipment for Production Studio	Monitoring Equipment	Studio monitor speaker for Production studio	1	1	SONY	SRP-S1000	A	
2-231	Equipment for Production Studio	Monitoring Equipment	Rack mount monitor - 1	1	1	SONY	AMS-100	A	
2-232	Equipment for Production Studio	Monitoring Equipment	Rack mount monitor - 2	1	1	SONY	AMS-100	A	
2-233	Equipment for Production Studio	Monitoring Equipment	Rack mount monitor - 3	1	1	SONY	AMS-100	A	
2-234	Equipment for Production Studio	Monitoring Equipment	Rack mount monitor - 4	1	1	SONY	AMS-100	A	
2-235	Equipment for Production Studio	Monitoring Equipment	Stereo headphones - 1	1	1	SONY	MDR-CD2000	A	
2-236	Equipment for Production Studio	Monitoring Equipment	Stereo headphones - 2	1	1	SONY	MDR-CD2000	A	
2-237	Equipment for Production Studio	Monitoring Equipment	Earphone - 1	1	1	SONY	MDR-EX17MM	C	
2-238	Equipment for Production Studio	Monitoring Equipment	Earphone - 2	1	1	SONY	MDR-EX17MM	C	
2-239	Equipment for Production Studio	Monitoring Equipment	Earphone - 3	1	1	SONY	MDR-EX17MM	C	
2-240	Equipment for Production Studio	Monitoring Equipment	Earphone - 4	1	1	SONY	MDR-EX17MM	C	
2-241	Equipment for Production Studio	Monitoring Equipment	Earphone - 5	1	1	SONY	MDR-EX17MM	C	
2-242	Equipment for Production Studio	Monitoring Equipment	Tally system for Production studio	1	1	SONY	*****	A	
2-243	Equipment for Production Studio	Sync Signal Generator	Sync signal generator system	1	1	TEKTRONIX Japan	TG700 op.85	A	
2-244	Equipment for Production Studio	Sync Signal Generator	Word Sync generator system	1	1	LEADER	LT2B	A	
2-245	Equipment for Production Studio	Intercom System	Intercom system for Production studio	1	1	Clear-cam JAPAN	SB-740	A	
2-246	Equipment for Production Studio	Operation Console and Rack	System rack for Production studio	1	1	SONY	*****	A	
2-247	Equipment for Production Studio	Operation Console and Rack	Mixer panel for Production studio	1	1	STUOER Japan	*****	A	
2-248	Equipment for Production Studio	Operation Console and Rack	Monitor shelf for Production studio	1	1	NEC	*****	A	

Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Items	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-249	Equipment for Production Studio	Operation Console and Rack	Operation console for Production studio	1	1	SONY	*****	A	
2-250	Equipment for Production Studio	Operation Console and Rack	Operation chair - 1	1	1	OKAMURA	CG24GZ-FM	A	
2-251	Equipment for Production Studio	Operation Console and Rack	Operation chair - 2	1	1	OKAMURA	CG24GZ-FM	A	
2-252	Equipment for Production Studio	Operation Console and Rack	Operation chair - 3	1	1	OKAMURA	CG24GZ-FM	A	
2-253	Equipment for Production Studio	Operation Console and Rack	Operation chair - 4	1	1	OKAMURA	CG24GZ-FM	A	
2-254	Equipment for Production Studio	Operation Console and Rack	Operation chair - 5	1	1	OKAMURA	CG24GZ-FM	A	
2-255	Equipment for Production Studio	Operation Console and Rack	Operation chair - 6	1	1	OKAMURA	CG24GZ-FM	A	
2-256	Equipment for Production Studio	Operation Console and Rack	Operation chair - 7	1	1	OKAMURA	CG24GZ-FM	A	
2-257	Equipment for Production Studio	Operation Console and Rack	Monitor stand for L.D. Audio for Production studio - 1	1	1	SONY	*****	A	
2-258	Equipment for Production Studio	Operation Console and Rack	Monitor stand for L.D. Audio for Production studio - 2	1	1	SONY	*****	A	
2-259	Equipment for News Studio	Video Equipment	Studio color camera system 12X Lens, Dolly - 1	1	1	SONY	BVP-E10P	A	
2-260	Equipment for News Studio	Video Equipment	Studio color camera system 12X Lens, Dolly - 2	1	1	SONY	BVP-E10P	B	
2-261	Equipment for News Studio	Video Equipment	Studio color camera system WVP 18X Lens, Ramp	1	1	SONY	BVP-E10P	B	
2-262	Equipment for News Studio	Video Equipment	Digital video switcher for News studio	1	1	SONY	DF5-700AP	A	
2-263	Equipment for News Studio	Video Equipment	Digital video recorder TBC Remote, Remote CP - 1	1	1	SONY	DVM-A500P	B	o
2-264	Equipment for News Studio	Video Equipment	Digital video recorder TBC Remote, Remote CP - 2	1	1	SONY	DVM-A500P	B	o
2-265	Equipment for News Studio	Video Equipment	Digital video player TBC Remote, Remote CP	1	1	SONY	DVM-A500P	B	o
2-266	Equipment for News Studio	Video Equipment	Character generator	1	1	INSCRIBER Japan	CG-FX	C	
2-267	Equipment for News Studio	Video Equipment	Digital video routing switcher	1	1	LEITCH Japan	X+18X18	A	
2-268	Equipment for News Studio	Video Equipment	Interface unit for News studio	1	1	SONY	PPV4-10/PAC	A	
2-269	Equipment for News Studio	Video Equipment	Video patch panel for News studio	1	1	CANARE	281U-DV1W	B	
2-270	Equipment for News Studio	Video Equipment	Camera connecting plate for News studio	1	1	SONY	*****	A	
2-271	Equipment for News Studio	Video Equipment	AVY Channeling plate for News studio	1	1	SONY	*****	A	
2-272	Equipment for News Studio	Video Equipment	AVY Controlling box	1	1	SONY	*****	A	
2-273	Equipment for News Studio	Video Equipment	ON-AIR Lamp	1	1	SONY	*****	A	
2-274	Equipment for News Studio	Video Equipment	Test chart for Camera	1	1	MURAKAMI	GS-3/A-2	A	
2-275	Equipment for News Studio	Audio Equipment	Digital audio mixer for News studio	1	1	STUDER Japan	On-Air1000	B	
2-276	Equipment for News Studio	Audio Equipment	DAT Recorder	1	1	SONY	PCM-7040	A	
2-277	Equipment for News Studio	Audio Equipment	CD Recorder	1	1	SONY	CDR-W05	A	
2-278	Equipment for News Studio	Audio Equipment	MD Recorder	1	1	TASCAM	MD-601RmkII	C	
2-279	Equipment for News Studio	Audio Equipment	Stereo cassette recorder	1	1	TASCAM	122MKIII	A	
2-280	Equipment for News Studio	Audio Equipment	Digital delay	1	1	SONY	SRP-L300	B	
2-281	Equipment for News Studio	Audio Equipment	Condenser microphones - 1	1	1	SONY	C-38B	C	
2-282	Equipment for News Studio	Audio Equipment	Condenser microphones - 2	1	1	SONY	C-38B	C	
2-283	Equipment for News Studio	Audio Equipment	Dynamic microphones - 1	1	1	SONY	F-700	A	
2-284	Equipment for News Studio	Audio Equipment	Dynamic microphones - 2	1	1	SONY	F-700	A	
2-285	Equipment for News Studio	Audio Equipment	Lavalier microphone - 1	1	1	SONY	ECM-148	B	
2-286	Equipment for News Studio	Audio Equipment	Lavalier microphone - 2	1	1	SONY	ECM-148	B	
2-287	Equipment for News Studio	Audio Equipment	Microphone boom stand arm	1	1	SONY	B-309C	A	
2-288	Equipment for News Studio	Audio Equipment	Microphone floor stand	1	1	SONY	B-500A	A	
2-289	Equipment for News Studio	Audio Equipment	Microphone table stand - 1	1	1	audio-technica	AT8852	A	
2-290	Equipment for News Studio	Audio Equipment	Microphone table stand - 2	1	1	audio-technica	AT8852	A	
2-291	Equipment for News Studio	Audio Equipment	Microphone connector panel	1	1	SONY	*****	A	
2-292	Equipment for News Studio	Audio Equipment	Multi microphone cable W/feet	1	1	SONY	*****	A	
2-293	Equipment for News Studio	Audio Equipment	Microphone connector box	1	1	CANARE	GB1N2	A	
2-294	Equipment for News Studio	Audio Equipment	Microphone cable	1	1	CANARE	EC08/EC10	A	
2-295	Equipment for News Studio	Audio Equipment	D/A Converter	1	1	YAMAHA	DAB24	B	
2-296	Equipment for News Studio	Audio Equipment	Interface unit for News studio	1	1	SONY	PPV4-10/PAC	A	
2-297	Equipment for News Studio	Audio Equipment	Audio patch panel for News studio	1	1	CANARE	281U-DV1W	A	
2-298	Equipment for News Studio	Audio Equipment	ANN Coach system	1	1	SONY	*****	A	
2-299	Equipment for News Studio	Audio Equipment	UHF Synthesized transmitter - 1	1	1	SONY	WRT-8B	A	
2-300	Equipment for News Studio	Audio Equipment	UHF Synthesized transmitter - 2	1	1	SONY	WRT-8B	A	
2-301	Equipment for News Studio	Monitoring Equipment	VE Monitor	1	1	SONY	BVM-14F6E	B	
2-302	Equipment for News Studio	Monitoring Equipment	WFM/VIS for News studio	1	1	TEKTRONIX Japan	1721	A	
2-303	Equipment for News Studio	Monitoring Equipment	9inch Color monitor	1	1	SONY	PVM-912	B	
2-304	Equipment for News Studio	Monitoring Equipment	9inch Color monitor Rack mount	1	1	SONY	PVM-912	B	
2-305	Equipment for News Studio	Monitoring Equipment	9inch Color monitor Rack mount, Alignment	1	1	SONY	PVM-912	B	
2-306	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 1	1	1	SONY	PVM-14L4	B	
2-307	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 2	1	1	SONY	PVM-14L4	B	
2-308	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 3	1	1	SONY	PVM-14L4	B	

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Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-300	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 4	1	1	SONY	PVM-14L4	B	
2-310	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 5	1	1	SONY	PVM-14L4	B	
2-311	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 6	1	1	SONY	PVM-14L4	B	
2-312	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 7	1	1	SONY	PVM-14L4	B	
2-313	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 8	1	1	SONY	PVM-14L4	B	
2-314	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 9	1	1	SONY	PVM-14L4	B	
2-315	Equipment for News Studio	Monitoring Equipment	14inch Color monitor - 10	1	1	SONY	PVM-14L4	B	
2-316	Equipment for News Studio	Monitoring Equipment	20inch Color monitor - 1	1	1	SONY	PVM-20L4	B	
2-317	Equipment for News Studio	Monitoring Equipment	20inch Color monitor - 2	1	1	SONY	PVM-20L4	B	
2-318	Equipment for News Studio	Monitoring Equipment	20inch Color monitor - 3	1	1	SONY	PVM-20L4	B	
2-319	Equipment for News Studio	Monitoring Equipment	20inch Floor Color monitor with stand	1	1	SONY	KV-AR20MB	C	
2-320	Equipment for News Studio	Monitoring Equipment	Control room monitor speaker	1	1	FOSTEX	NE-1	A	
2-321	Equipment for News Studio	Monitoring Equipment	Studio monitor speaker for News studio	1	1	SONY	SRP-8420	A	
2-322	Equipment for News Studio	Monitoring Equipment	Rack mount monitor - 1	1	1	SONY	AMS-100	A	
2-323	Equipment for News Studio	Monitoring Equipment	Rack mount monitor - 2	1	1	SONY	AMS-100	A	
2-324	Equipment for News Studio	Monitoring Equipment	Rack mount monitor - 3	1	1	SONY	AMS-100	A	
2-325	Equipment for News Studio	Monitoring Equipment	Rack mount monitor - 4	1	1	SONY	AMS-100	A	
2-326	Equipment for News Studio	Monitoring Equipment	Stereo headphones - 1	1	1	SONY	MDR-0D2000	A	
2-327	Equipment for News Studio	Monitoring Equipment	Stereo headphones - 2	1	1	SONY	MDR-0D2000	A	
2-328	Equipment for News Studio	Monitoring Equipment	Stereo headphones - 3	1	1	SONY	MDR-0D2000	A	
2-329	Equipment for News Studio	Monitoring Equipment	Earphone - 1	1	1	SONY	MDR-EX17MM	C	
2-330	Equipment for News Studio	Monitoring Equipment	Earphone - 2	1	1	SONY	MDR-EX17MM	C	
2-331	Equipment for News Studio	Monitoring Equipment	Earphone - 3	1	1	SONY	MDR-EX17MM	C	
2-332	Equipment for News Studio	Monitoring Equipment	Earphone - 4	1	1	SONY	MDR-EX17MM	C	
2-333	Equipment for News Studio	Monitoring Equipment	Earphone - 5	1	1	SONY	MDR-EX17MM	C	
2-334	Equipment for News Studio	Monitoring Equipment	Tally system for News studio	1	1	SONY	*****	A	
2-335	Equipment for News Studio	Monitoring Equipment	TB, BT System	1	1	SONY	*****	A	
2-336	Equipment for News Studio	Syna Signal Generator	Syna signal generator system	1	1	TEKTRONIX Japan	TG700 CG-83	A	
2-337	Equipment for News Studio	Syna Signal Generator	Word syna generator system	1	1	LEADER	L7420	B	
2-338	Equipment for News Studio	Intercom System	Intercom system for News studio	1	1	Clear-earm JAPAN	MB-232	A	
2-339	Equipment for News Studio	Operation Console and Rack	System rack for News studio	1	1	SONY	*****	A	
2-340	Equipment for News Studio	Operation Console and Rack	Operation console for News studio	1	1	SONY	*****	A	
2-341	Equipment for News Studio	Operation Console and Rack	Operation table for Character generator	1	1	SONY	*****	A	
2-342	Equipment for News Studio	Operation Console and Rack	Operation chair - 1	1	1	OKAMURA	CG24GZ-FM	A	
2-343	Equipment for News Studio	Operation Console and Rack	Operation chair - 2	1	1	OKAMURA	CG24GZ-FM	A	
2-344	Equipment for News Studio	Operation Console and Rack	Operation chair - 3	1	1	OKAMURA	CG24GZ-FM	A	
2-345	Equipment for News Studio	Operation Console and Rack	Operation chair - 4	1	1	OKAMURA	CG24GZ-FM	A	
2-346	Equipment for News Studio	Operation Console and Rack	Mini rack for Audio equipment for News studio	1	1	SONY	*****	A	
2-347	Equipment for News Studio	Operation Console and Rack	Mixer table	1	1	SONY	*****	A	
2-348	Equipment for News Studio	Operation Console and Rack	Monitor stand for LB, Audio for News studio	1	1	SONY	*****	A	
2-349	Equipment for News Studio	Other Equipment	Video timer	1	1	FOR-A	VTG-560	A	
2-350	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Editing controller - 1	1	1	SONY	PVE-600	B	Shuttle switch defective
2-351	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Editing controller - 2	1	1	SONY	PVE-600	A	
2-352	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Editing controller - 3	1	1	SONY	PVE-600	B	search defective
2-353	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Editing controller - 4	1	1	SONY	PVE-600	B	search defective
2-354	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video recorder - 1	1	1	SONY	DVW-A600P	B	
2-355	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video recorder - 2	1	1	SONY	DVW-A600P	B	
2-356	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video recorder - 3	1	1	SONY	DVW-A600P	B	
2-357	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video recorder - 4	1	1	SONY	DVW-A600P	B	
2-358	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video player - 1	1	1	SONY	DVW-A600P	B	
2-359	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video player - 2	1	1	SONY	DVW-A600P	B	
2-360	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video player - 3	1	1	SONY	DVW-A600P	B	
2-361	Equipment for Editing System (1:1 Editing Sy)	Video Equipment	Digital video player - 4	1	1	SONY	DVW-A600P	B	
2-362	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 1	1	1	SONY	PVM-20L4	A	
2-363	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 2	1	1	SONY	PVM-20L4	A	
2-364	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 3	1	1	SONY	PVM-20L4	A	
2-365	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 4	1	1	SONY	PVM-20L4	A	
2-366	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 5	1	1	SONY	PVM-20L4	A	
2-367	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 6	1	1	SONY	PVM-20L4	A	
2-368	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 7	1	1	SONY	PVM-20L4	A	
2-369	Equipment for Editing System (1:1 Editing Sy)	Monitoring Equipment	20inch color monitor - 8	1	1	SONY	PVM-20L4	A	

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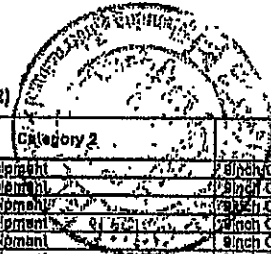
Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Items	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-370	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Acoustic monitor speaker - 1	1	1	SONY	SMS-1P	A	
2-371	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Acoustic monitor speaker - 2	1	1	SONY	SMS-1P	A	
2-372	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Acoustic monitor speaker - 3	1	1	SONY	SMS-1P	A	
2-373	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Acoustic monitor speaker - 4	1	1	SONY	SMS-1P	A	
2-374	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Stereo headphones - 1	1	1	SONY	MDR-002000	A	
2-375	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Stereo headphones - 2	1	1	SONY	MDR-002000	A	
2-376	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Stereo headphones - 3	1	1	SONY	MDR-002000	A	
2-377	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Stereo headphones - 4	1	1	SONY	MDR-002000	A	
2-378	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation chair - 1	1	1	OKAMURA	OG24GZ-FM	A	
2-379	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation chair - 2	1	1	OKAMURA	OG24GZ-FM	A	
2-380	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation chair - 3	1	1	OKAMURA	OG24GZ-FM	A	
2-381	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation chair - 4	1	1	OKAMURA	OG24GZ-FM	A	
2-382	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation table for 1st Editing system - 1	1	1	SONY	*****	A	
2-383	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation table for 1st Editing system - 2	1	1	SONY	*****	A	
2-384	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation table for 1st Editing system - 3	1	1	SONY	*****	A	
2-385	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	Operation table for 1st Editing system - 4	1	1	SONY	*****	A	
2-386	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	VTR Rack - 1	1	1	SONY	*****	A	
2-387	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	VTR Rack - 2	1	1	SONY	*****	A	
2-388	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	VTR Rack - 3	1	1	SONY	*****	A	
2-389	Equipment for Editing System (A/B Roll Editing)	Operation Console and Rack	VTR Rack - 4	1	1	SONY	*****	A	
2-390	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video switcher for A/B Roll editing system - 1	1	1	SONY	DVS-2000C	B	
2-391	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video switcher for A/B Roll editing system - 2	1	1	SONY	DVS-2000C	B	
2-392	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video effector for A/B Roll editing system - 1	1	1	SONY	DME-3000/PAC	B	power supply damaged
2-393	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video effector for A/B Roll editing system - 2	1	1	SONY	DME-3000/PAC	A	
2-394	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Editing control unit for A/B Roll editing system - 1	1	1	SONY	BVE-2000	A	
2-395	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Editing control unit for A/B Roll editing system - 2	1	1	SONY	BVE-2000	A	
2-396	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video recorder - 1	1	1	SONY	DVW-A800P	B	o
2-397	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video recorder - 2	1	1	SONY	DVW-A800P	B	o
2-398	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video player - 1	1	1	SONY	DVW-A800P	B	o
2-399	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video player - 2	1	1	SONY	DVW-A800P	B	o
2-400	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video player - 3	1	1	SONY	DVW-A800P	B	o
2-401	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video player - 4	1	1	SONY	DVW-A800P	B	o
2-402	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Character generator - 1	1	1	INSORIBER Japan	CG-FX	C	
2-403	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Character generator - 2	1	1	INSORIBER Japan	CG-FX	C	
2-404	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Interface unit for A/B Roll editing system - 1	1	1	SONY	PFV-L10/PAC	A	
2-405	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Interface unit for A/B Roll editing system - 2	1	1	SONY	PFV-L10/PAC	A	
2-406	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Video patch panel for A/B Roll editing system - 1	1	1	CANARE	281U-DVJW	A	
2-407	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Video patch panel for A/B Roll editing system - 2	1	1	CANARE	281U-DVJW	A	
2-408	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Digital audio mixer for A/B Roll editing system - 1	1	1	YAMAHA	Q3D	A	
2-409	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Digital audio mixer for A/B Roll editing system - 2	1	1	YAMAHA	Q3D	A	
2-410	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	DAT Recorder - 1	1	1	SONY	PCM-7040	A	
2-411	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	DAT Recorder - 2	1	1	SONY	PCM-7040	A	
2-412	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	CD recorder - 1	1	1	SONY	CDR-W80	A	
2-413	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	CD Recorder - 2	1	1	SONY	CDR-W80	A	
2-414	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	MD Recorder - 1	1	1	TASCAM	MD-801RmkII	A	
2-415	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	MD Recorder - 2	1	1	TASCAM	MD-801RmkII	A	
2-416	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Stereo cassette recorder - 1	1	1	TASCAM	122MKIII	A	
2-417	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Stereo cassette recorder - 2	1	1	TASCAM	122MKIII	A	
2-418	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Digital delay - 1	1	1	SONY	SRL-1300	A	
2-419	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Digital delay - 2	1	1	SONY	SRL-1300	A	
2-420	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Sampling rate converter - 1	1	1	TAMURA	SRC2000	A	
2-421	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Sampling rate converter - 2	1	1	TAMURA	SRC2000	A	
2-422	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Audio patch panel for A/B Roll editing system - 1	1	1	CANARE	281U-DVJW	A	
2-423	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Audio patch panel for A/B Roll editing system - 2	1	1	CANARE	281U-DVJW	A	
2-424	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Digital waveform monitor - 1	1	1	TEKTRONIX Japan	WFM-801A	A	
2-425	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Digital waveform monitor - 2	1	1	TEKTRONIX Japan	WFM-801A	A	
2-426	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Single Color monitor - 1	1	1	SONY	BYN-3045D	A	
2-427	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Single Color monitor - 2	1	1	SONY	BYN-3045D	A	

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Current Condition of the equipment and spares (Lot 2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-420	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single color monitor - 3	1		SONY	BVM-9046D	C	no video power ck
2-429	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 4	1		SONY	BVM-9046D	A	
2-430	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 1	1		SONY	PVM-9L2	A	
2-431	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 2	1		SONY	PVM-9L2	A	
2-432	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 3	1		SONY	PVM-9L2	A	
2-433	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 4	1		SONY	PVM-9L2	A	
2-434	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 5	1		SONY	PVM-9L2	A	
2-435	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 6	1		SONY	PVM-9L2	A	
2-436	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Single Color monitor - 8	1		SONY	PVM-9L2	A	
2-437	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		14-inch Color monitor SDI Input - 1	1		SONY	PVM-14L4	A	
2-438	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		14-inch Color monitor SDI Input - 2	1		SONY	PVM-14L4	A	
2-439	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Active monitor speaker for A/B Roll editing system	1		SONY	SMS-2P	A	
2-440	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Active monitor speaker for A/B Roll editing system	1		SONY	SMS-2P	A	
2-441	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Stereo headphones - 1	1		SONY	MDR-002000	A	
2-441	Equipment for Editing System (A/B Roll Editing) Monitoring Equipment		Stereo headphones - 2	1		SONY	MDR-002000	A	
2-442	Equipment for Editing System (A/B Roll Editing) Sync Signal Generator		Sync signal generator system - 1	1		TEKTRONIX Japan	TG700 ep.00	A	
2-443	Equipment for Editing System (A/B Roll Editing) Sync Signal Generator		Sync signal generator system - 2	1		TEKTRONIX Japan	TG700 ep.08	A	
2-444	Equipment for Editing System (A/B Roll Editing) Sync Signal Generator		Word Sync generator system - 1	1		LEADER	LT428	A	
2-445	Equipment for Editing System (A/B Roll Editing) Sync Signal Generator		Word Sync generator system - 2	1		LEADER	LT428	A	
2-446	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		System rack for A/B Roll editing system - 1	1		SONY	*****	A	
2-447	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		System rack for A/B Roll editing system - 2	1		SONY	*****	A	
2-448	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation console for A/B Roll editing system - 1	1		SONY	*****	A	
2-449	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation console for A/B Roll editing system - 2	1		SONY	*****	A	
2-450	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation table for Character generator - 1	1		SONY	*****	A	
2-451	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation table for Character generator - 2	1		SONY	*****	A	
2-452	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 1	1		OKAMURA	CG24GZ-FM	A	
2-453	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 2	1		OKAMURA	CG24GZ-FM	A	
2-454	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 3	1		OKAMURA	CG24GZ-FM	A	
2-455	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 4	1		OKAMURA	CG24GZ-FM	A	
2-456	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 5	1		OKAMURA	CG24GZ-FM	A	
2-457	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 6	1		OKAMURA	CG24GZ-FM	A	
2-458	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 7	1		OKAMURA	CG24GZ-FM	A	
2-459	Equipment for Editing System (A/B Roll Editing) Operation Console and Rack		Operation chair - 8	1		OKAMURA	CG24GZ-FM	A	
2-460	Equipment for Editing System (Announce Studio) Video Equipment		Studio color camera system 12X Lens, Color	1		SONY	BVP-E10P	A	
2-461	Equipment for Editing System (Announce Studio) Video Equipment		Digital video switcher	1		SONY	DVS-700AP	A	
2-462	Equipment for Editing System (Announce Studio) Video Equipment		Digital video recorder TBC Remote - 1	1		SONY	DVW-A600P	A	o
2-463	Equipment for Editing System (Announce Studio) Video Equipment		Digital video recorder TBC Remote - 2	1		SONY	DVW-A600P	A	o
2-464	Equipment for Editing System (Announce Studio) Video Equipment		Digital video player Rack mount, TBC Remote	1		SONY	DVW-A600P	A	o
2-465	Equipment for Editing System (Announce Studio) Video Equipment		Character generator	1		INSCRIBER Japan	CG-FX	C	
2-466	Equipment for Editing System (Announce Studio) Video Equipment		Interface unit for Announce studio	1		SONY	PFV-L10/PAC	B	
2-467	Equipment for Editing System (Announce Studio) Video Equipment		Video patch panel for Announce studio	1		CANARE	281U-DV1W	A	
2-468	Equipment for Editing System (Announce Studio) Video Equipment		Camera connecting plate	1		SONY	*****	A	
2-469	Equipment for Editing System (Announce Studio) Video Equipment		AVV connecting plate for Announce studio	1		SONY	*****	A	
2-470	Equipment for Editing System (Announce Studio) Video Equipment		ON-Air Lamp	1		SONY	*****	A	
2-471	Equipment for Editing System (Announce Studio) Video Equipment		Test chart for Camera	1		MURAKAMI	GS-3/A-2	A	
2-472	Equipment for Editing System (Announce Studio) Audio Equipment		Digital audio mixer for Announce studio	1		STUDER Japan	Q1-A1-1000	B	
2-473	Equipment for Editing System (Announce Studio) Audio Equipment		DAT Recorder	1		SONY	PCM-7040	A	
2-474	Equipment for Editing System (Announce Studio) Audio Equipment		CD Recorder	1		SONY	CDR-W88	A	
2-475	Equipment for Editing System (Announce Studio) Audio Equipment		MD Recorder	1		TASCAM	MD-801/BK/II	A	
2-476	Equipment for Editing System (Announce Studio) Audio Equipment		Stereo cassette recorder	1		TASCAM	122MKIII	A	
2-477	Equipment for Editing System (Announce Studio) Audio Equipment		Digital delay	1		SONY	SRP-L300	B	
2-478	Equipment for Editing System (Announce Studio) Audio Equipment		Condenser microphone	1		SONY	C-30B	C	
2-478	Equipment for Editing System (Announce Studio) Audio Equipment		Dynamic microphone	1		SONY	E-700	A	
2-480	Equipment for Editing System (Announce Studio) Audio Equipment		Dynamic microphone	1		SONY	EQM-14B	A	
2-481	Equipment for Editing System (Announce Studio) Audio Equipment		Microphone boom stand small	1		SONY	B-305C	A	
2-482	Equipment for Editing System (Announce Studio) Audio Equipment		Microphone floor stand	1		SONY	B-600A	A	
2-483	Equipment for Editing System (Announce Studio) Audio Equipment		Microphone table stand	1		audio-technica	AT8802	A	
2-484	Equipment for Editing System (Announce Studio) Audio Equipment		Microphone cable	1		CANARE	BC01EC10	A	
2-485	Equipment for Editing System (Announce Studio) Audio Equipment		D/A Converter	1		YAMAHA	DA324	A	
2-486	Equipment for Editing System (Announce Studio) Audio Equipment		Interface unit for Announce studio	1		SONY	PFV-L10/PAC	A	
2-487	Equipment for Editing System (Announce Studio) Audio Equipment		Audio patch panel for Announce studio	1		CANARE	281U-DV1W	B	

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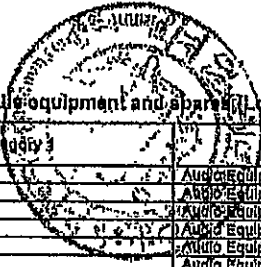
Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-488	Equipment for Editing System (Announce Stu)	Monitoring Equipment	VCR/D/S for Announce studio	1		TEKTRONIX Japan	1721	A	
2-489	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 1	1		SONY	PVM-912	B	
2-490	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 2	1		SONY	PVM-912	B	
2-491	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 3	1		SONY	PVM-912	B	
2-492	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 4	1		SONY	PVM-912	B	
2-493	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 5	1		SONY	PVM-912	B	
2-494	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 6	1		SONY	PVM-912	B	
2-495	Equipment for Editing System (Announce Stu)	Monitoring Equipment	19inch color monitor - 7	1		SONY	PVM-912	B	
2-496	Equipment for Editing System (Announce Stu)	Monitoring Equipment	20inch color monitor	1		SONY	PVM-20L4	B	
2-497	Equipment for Editing System (Announce Stu)	Monitoring Equipment	20inch floor color monitor with stand	1		SONY	KV-AR29M66	B	
2-498	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Control room monitor speaker	1		FOSTEX	NP-1	C	
2-499	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Studio monitor speaker for Announce studio	1		SONY	SRP-S420	C	
2-500	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Active monitor speaker	1		SONY	SMS-1P	A	
2-501	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Rack mount monitor speaker - 1	1		SONY	AMS-100	A	
2-502	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Rack mount monitor speaker - 2	1		SONY	AMS-100	A	
2-503	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Rack mount monitor speaker - 3	1		SONY	AMS-100	A	
2-504	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Rack mount monitor speaker - 4	1		SONY	AMS-100	A	
2-505	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Stereo headphones - 1	1		SONY	MDR-CD2000	A	
2-506	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Stereo headphones - 2	1		SONY	MDR-CD2000	A	
2-507	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Stereo headphones - 3	1		SONY	MDR-CD2000	A	
2-508	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Earphone - 1	1		SONY	MDR-EX17MM	B	
2-509	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Earphone - 2	1		SONY	MDR-EX17MM	C	
2-510	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Earphone - 3	1		SONY	MDR-EX17MM	C	
2-511	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Earphone - 4	1		SONY	MDR-EX17MM	B	
2-512	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Earphone - 5	1		SONY	MDR-EX17MM	C	
2-513	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Telly system for Announce Studio	1		SONY	*****	A	
2-514	Equipment for Editing System (Announce Stu)	Monitoring Equipment	IB, BT system	1		SONY	*****	A	
2-515	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Synch signal generator system	1		TEKTRONIX Japan	TG700 op.88	A	
2-516	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Video sync generator system	1		LEADER	LT428	B	
2-517	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Portable Lighting Equipment - 1	1		TOSHIBA LIGHTTEC	MB-2	A	
2-518	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Portable Lighting Equipment - 2	1		TOSHIBA LIGHTTEC	MB-2	A	
2-519	Equipment for Editing System (Announce Stu)	Monitoring Equipment	Portable Lighting Equipment - 3	1		TOSHIBA LIGHTTEC	MB-2	A	
2-520	Equipment for Editing System (Announce Stu)	Operation Console and Rack	System rack for Announce studio	1		SONY	*****	A	
2-521	Equipment for Editing System (Announce Stu)	Operation Console and Rack	Operation table for Character generator	1		SONY	*****	A	
2-522	Equipment for Editing System (Announce Stu)	Operation Console and Rack	Operation chair - 1	1		OKAMURA	CG2402-FM	A	
2-523	Equipment for Editing System (Announce Stu)	Operation Console and Rack	Operation chair - 2	1		OKAMURA	CG2402-FM	A	
2-524	Equipment for Editing System (Announce Stu)	Operation Console and Rack	Operation table for Announce studio	1		SONY	*****	A	
2-525	Equipment for Editing System (Announce Stu)	Operation Console and Rack	Monitor stand for LD, Audio for Announce studio	1		SONY	*****	A	
2-526	Equipment for Telecine Room	Video Equipment	Digital video recorder Rack mount - 1	1		SONY	DVWA600P	B	
2-527	Equipment for Telecine Room	Video Equipment	Digital video recorder Rack mount - 2	1		SONY	DVWA600P	B	
2-528	Equipment for Telecine Room	Video Equipment	10X16 Digital AV matrix switcher	1		LEITCH Japan	X18x16BAE8	A	
2-529	Equipment for Telecine Room	Video Equipment	Replaceable unit for Telecine room	1		SONY	FFV-110/PAG	A	
2-530	Equipment for Telecine Room	Video Equipment	Video patch panel Telecine room	1		DANARE	281U-DVJW	A	
2-531	Equipment for Telecine Room	Audio Equipment	Audio line converter	1		TARCAM	LA-40MKII	A	
2-532	Equipment for Telecine Room	Audio Equipment	Signal generator	1		LEADER	LT428	B	
2-533	Equipment for Telecine Room	Audio Equipment	Audio patch panel Telecine room	1		DANARE	281U-DVJW	A	
2-534	Equipment for Telecine Room	Monitoring Equipment	19inch color monitor SDI Input, Rack mount	1		SONY	PVM-16L4	B	
2-535	Equipment for Telecine Room	Monitoring Equipment	Rack mount monitor	1		SONY	AMS-100	A	
2-536	Equipment for Telecine Room	Operation Console and Rack	System rack Telecine room - 1	1		SONY	*****	A	
2-537	Equipment for Telecine Room	Operation Console and Rack	System rack Telecine room - 2	1		SONY	*****	A	
2-538	Equipment for ENG	Video Equipment	Camcorder - 1	1		SONY	DVW-707P	A	
2-539	Equipment for ENG	Video Equipment	Camcorder - 2	1		SONY	DVW-707P	A	
2-540	Equipment for ENG	Video Equipment	Camcorder - 3	1		SONY	DVW-707P	A	
2-541	Equipment for ENG	Video Equipment	Camcorder - 4	1		SONY	DVW-707P	B	
2-542	Equipment for ENG	Video Equipment	Camcorder - 5	1		SONY	DVW-707P	B	
2-543	Equipment for ENG	Video Equipment	Camcorder - 6	1		SONY	DVW-707P	B	
2-544	Equipment for ENG	Video Equipment	Camcorder - 7	1		SONY	DVW-707P	B	
2-545	Equipment for ENG	Video Equipment	Camcorder - 8	1		SONY	DVW-707P	C	
2-546	Equipment for ENG	Audio Equipment	Compact mixer - 1	1		SIGMA	KS-342	A	
2-547	Equipment for ENG	Audio Equipment	Compact mixer - 2	1		SIGMA	KS-342	A	
2-548	Equipment for ENG	Audio Equipment	Compact mixer - 3	1		SIGMA	KS-342	A	
2-549	Equipment for ENG	Audio Equipment	Compact mixer - 4	1		SIGMA	KS-342	A	
2-550	Equipment for ENG	Audio Equipment	Compact mixer - 5	1		SIGMA	KS-342	A	

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Current Condition of the equipment and spare parts (of-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category	Category 2	Item	Original Q'ty	Current Q'ty	Maker	Model	Current Condition	Remarks
2-650	Equipment for ENG	Audio Equipment	Compact mixer - 6	1	1	SIGMA	KS-342	A	
2-651	Equipment for ENG	Audio Equipment	Compact mixer - 7	1	1	SIGMA	KS-342	A	
2-652	Equipment for ENG	Audio Equipment	Compact mixer - 8	1	1	SIGMA	KS-342	A	
2-653	Equipment for ENG	Audio Equipment	Portable DAT - 1	1	1	SONY	TCD-D10PROII	A	
2-654	Equipment for ENG	Audio Equipment	Portable DAT - 2	1	1	SONY	TCD-D10PROII	A	
2-655	Equipment for ENG	Audio Equipment	Portable DAT - 3	1	1	SONY	TCD-D10PROII	A	
2-656	Equipment for ENG	Audio Equipment	Portable DAT - 4	1	1	SONY	TCD-D10PROII	A	
2-657	Equipment for ENG	Audio Equipment	Portable DAT - 5	1	1	SONY	TCD-D10PROII	A	
2-658	Equipment for ENG	Audio Equipment	Portable DAT - 6	1	1	SONY	TCD-D10PROII	A	
2-659	Equipment for ENG	Audio Equipment	Portable DAT - 7	1	1	SONY	TCD-D10PROII	A	
2-660	Equipment for ENG	Audio Equipment	Portable DAT - 8	1	1	SONY	TCD-D10PROII	A	
2-661	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 1	1	1	audio-technica	AT804	A	
2-662	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 2	1	1	audio-technica	AT804	A	
2-663	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 3	1	1	audio-technica	AT804	A	
2-664	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 4	1	1	audio-technica	AT804	A	
2-665	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 5	1	1	audio-technica	AT804	A	
2-666	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 6	1	1	audio-technica	AT804	A	
2-667	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 7	1	1	audio-technica	AT804	A	
2-668	Equipment for ENG	Audio Equipment	Dynamic Interview microphone - 8	1	1	audio-technica	AT804	A	
2-669	Equipment for ENG	Audio Equipment	Lavalier microphone - 1	1	1	SONY	ECM-77B	A	
2-670	Equipment for ENG	Audio Equipment	Lavalier microphone - 2	1	1	SONY	ECM-77B	A	
2-671	Equipment for ENG	Audio Equipment	Lavalier microphone - 3	1	1	SONY	ECM-77B	A	
2-672	Equipment for ENG	Audio Equipment	Lavalier microphone - 4	1	1	SONY	ECM-77B	C	
2-673	Equipment for ENG	Audio Equipment	Gun microphone - 1	1	1	audio-technica	AT4073a	A	
2-674	Equipment for ENG	Audio Equipment	Gun microphone - 2	1	1	audio-technica	AT4073a	A	
2-675	Equipment for ENG	Audio Equipment	Gun microphone - 3	1	1	audio-technica	AT4073a	A	
2-676	Equipment for ENG	Audio Equipment	Gun microphone - 4	1	1	audio-technica	AT4073a	C	
2-677	Equipment for ENG	Audio Equipment	Gun microphone - 5	1	1	audio-technica	AT4073a	C	
2-678	Equipment for ENG	Audio Equipment	Gun microphone - 6	1	1	audio-technica	AT4073a	C	
2-679	Equipment for ENG	Audio Equipment	Gun microphone - 7	1	1	audio-technica	AT4073a	C	
2-680	Equipment for ENG	Audio Equipment	Gun microphone - 8	1	1	audio-technica	AT4073a	C	
2-681	Equipment for ENG	Audio Equipment	Hand mtp - 1	1	1	audio-technica	AT8400	A	
2-682	Equipment for ENG	Audio Equipment	Hand mtp - 2	1	1	audio-technica	AT8400	A	
2-683	Equipment for ENG	Audio Equipment	Hand mtp - 3	1	1	audio-technica	AT8400	C	
2-684	Equipment for ENG	Audio Equipment	Hand mtp - 4	1	1	audio-technica	AT8400	C	
2-685	Equipment for ENG	Audio Equipment	Hand mtp - 5	1	1	audio-technica	AT8400	C	
2-686	Equipment for ENG	Audio Equipment	Hand mtp - 6	1	1	audio-technica	AT8400	C	
2-687	Equipment for ENG	Audio Equipment	Hand mtp - 7	1	1	audio-technica	AT8400	C	
2-688	Equipment for ENG	Audio Equipment	Hand mtp - 8	1	1	audio-technica	AT8400	C	
2-689	Equipment for ENG	Audio Equipment	Windshield - 1	1	1	audio-technica	AT8105SS	C	
2-690	Equipment for ENG	Audio Equipment	Windshield - 2	1	1	audio-technica	AT8105SS	C	
2-691	Equipment for ENG	Audio Equipment	Windshield - 3	1	1	audio-technica	AT8105SS	C	
2-692	Equipment for ENG	Audio Equipment	Windshield - 4	1	1	audio-technica	AT8105SS	C	
2-693	Equipment for ENG	Audio Equipment	Windshield - 5	1	1	audio-technica	AT8105SS	C	
2-694	Equipment for ENG	Audio Equipment	Windshield - 6	1	1	audio-technica	AT8105SS	C	
2-695	Equipment for ENG	Audio Equipment	Windshield - 7	1	1	audio-technica	AT8105SS	C	
2-696	Equipment for ENG	Audio Equipment	Windshield - 8	1	1	audio-technica	AT8105SS	C	
2-697	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 1	1	1	SONY	*****	A	
2-698	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 2	1	1	SONY	*****	A	
2-699	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 3	1	1	SONY	*****	C	
2-700	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 4	1	1	SONY	*****	C	
2-701	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 5	1	1	SONY	*****	C	
2-702	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 6	1	1	SONY	*****	C	
2-703	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 7	1	1	SONY	*****	C	
2-704	Equipment for ENG	Audio Equipment	Carrying case for Gun Mic. - 8	1	1	SONY	*****	C	
2-805	Equipment for ENG	Audio Equipment	Fish pole - 1	1	1	TAKASAGO	HB-3K	C	
2-806	Equipment for ENG	Audio Equipment	Fish pole - 2	1	1	TAKASAGO	HB-3K	C	
2-807	Equipment for ENG	Audio Equipment	Fish pole - 3	1	1	TAKASAGO	HB-3K	C	
2-808	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 1	1	1	CANARE	EC016	C	
2-809	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 2	1	1	CANARE	EC016	C	
2-810	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 3	1	1	CANARE	EC016	C	
2-811	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 4	1	1	CANARE	EC016	C	

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Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-812	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 6	1	1	CANARE	EC016	C	
2-813	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 8	1	1	CANARE	EC016	C	
2-814	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 7	1	1	CANARE	EC016	C	
2-816	Equipment for ENG	Audio Equipment	Microphone cable 1.5M - 8	1	1	CANARE	EC016	C	
2-816	Equipment for ENG	Audio Equipment	Microphone cable 3M - 1	1	1	CANARE	EC003	C	
2-817	Equipment for ENG	Audio Equipment	Microphone cable 3M - 2	1	1	CANARE	EC003	C	
2-816	Equipment for ENG	Audio Equipment	Microphone cable 3M - 3	1	1	CANARE	EC003	C	
2-819	Equipment for ENG	Audio Equipment	Microphone cable 3M - 4	1	1	CANARE	EC003	C	
2-820	Equipment for ENG	Audio Equipment	Microphone cable 3M - 5	1	1	CANARE	EC003	C	
2-821	Equipment for ENG	Audio Equipment	Microphone cable 3M - 6	1	1	CANARE	EC003	C	
2-822	Equipment for ENG	Audio Equipment	Microphone cable 3M - 7	1	1	CANARE	EC003	C	
2-823	Equipment for ENG	Audio Equipment	Microphone cable 3M - 8	1	1	CANARE	EC003	C	
2-824	Equipment for ENG	Audio Equipment	Microphone cable 5M - 1	1	1	CANARE	EC005	C	
2-826	Equipment for ENG	Audio Equipment	Microphone cable 5M - 2	1	1	CANARE	EC005	C	
2-826	Equipment for ENG	Audio Equipment	Microphone cable 5M - 3	1	1	CANARE	EC005	C	
2-827	Equipment for ENG	Audio Equipment	Microphone cable 5M - 4	1	1	CANARE	EC005	C	
2-829	Equipment for ENG	Audio Equipment	Microphone cable 5M - 5	1	1	CANARE	EC005	C	
2-828	Equipment for ENG	Audio Equipment	Microphone cable 5M - 6	1	1	CANARE	EC005	C	
2-830	Equipment for ENG	Audio Equipment	Microphone cable 5M - 7	1	1	CANARE	EC005	C	
2-831	Equipment for ENG	Audio Equipment	Microphone cable 5M - 8	1	1	CANARE	EC005	C	
2-832	Equipment for ENG	Audio Equipment	Microphone cable 5M - 9	1	1	CANARE	EC005	C	
2-833	Equipment for ENG	Audio Equipment	Microphone cable 5M - 10	1	1	CANARE	EC005	C	
2-834	Equipment for ENG	Audio Equipment	Microphone cable 5M - 11	1	1	CANARE	EC005	C	
2-835	Equipment for ENG	Audio Equipment	Microphone cable 5M - 12	1	1	CANARE	EC005	C	
2-837	Equipment for ENG	Audio Equipment	Microphone cable 5M - 13	1	1	CANARE	EC005	C	
2-837	Equipment for ENG	Audio Equipment	Microphone cable 5M - 14	1	1	CANARE	EC005	C	
2-838	Equipment for ENG	Audio Equipment	Microphone cable 5M - 15	1	1	CANARE	EC005	C	
2-839	Equipment for ENG	Audio Equipment	Microphone cable 5M - 16	1	1	CANARE	EC005	C	
2-840	Equipment for ENG	Audio Equipment	Microphone cable 10M - 1	1	1	CANARE	EC10	C	
2-841	Equipment for ENG	Audio Equipment	Microphone cable 10M - 2	1	1	CANARE	EC10	C	
2-842	Equipment for ENG	Audio Equipment	Microphone cable 10M - 3	1	1	CANARE	EC10	C	
2-843	Equipment for ENG	Audio Equipment	Microphone cable 10M - 4	1	1	CANARE	EC10	C	
2-844	Equipment for ENG	Audio Equipment	Microphone cable 10M - 5	1	1	CANARE	EC10	C	
2-846	Equipment for ENG	Audio Equipment	Microphone cable 10M - 6	1	1	CANARE	EC10	C	
2-846	Equipment for ENG	Audio Equipment	Microphone cable 10M - 7	1	1	CANARE	EC10	C	
2-847	Equipment for ENG	Audio Equipment	Microphone cable 10M - 8	1	1	CANARE	EC10	C	
2-848	Equipment for ENG	Audio Equipment	Microphone cable 10M - 9	1	1	CANARE	EC10	C	
2-848	Equipment for ENG	Audio Equipment	Microphone cable 10M - 10	1	1	CANARE	EC10	C	
2-849	Equipment for ENG	Audio Equipment	Microphone cable 10M - 11	1	1	CANARE	EC10	C	
2-849	Equipment for ENG	Audio Equipment	Microphone cable 10M - 12	1	1	CANARE	EC10	C	
2-852	Equipment for ENG	Audio Equipment	Microphone cable 10M - 13	1	1	CANARE	EC10	C	
2-853	Equipment for ENG	Audio Equipment	Microphone cable 10M - 14	1	1	CANARE	EC10	C	
2-854	Equipment for ENG	Audio Equipment	Microphone cable 10M - 15	1	1	CANARE	EC10	C	
2-854	Equipment for ENG	Audio Equipment	Microphone cable 10M - 16	1	1	CANARE	EC10	C	
2-855	Equipment for ENG	Audio Equipment	Microphone cable 10M - 17	1	1	CANARE	EC10	C	
2-855	Equipment for ENG	Audio Equipment	Microphone cable 10M - 18	1	1	CANARE	EC10	C	
2-856	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 1	1	1	SONY	WRT-8B	B	
2-856	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 2	1	1	SONY	WRT-8B	B	
2-857	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 3	1	1	SONY	WRT-8B	C	
2-858	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 4	1	1	SONY	WRT-8B	A	
2-858	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 5	1	1	SONY	WRT-8B	A	
2-859	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 6	1	1	SONY	WRT-8B	A	
2-859	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 7	1	1	SONY	WRT-8B	A	
2-860	Equipment for ENG	Audio Equipment	UHF Synthesized transmitter - 8	1	1	SONY	WRT-8B	A	
2-861	Equipment for ENG	Monitoring Equipment	Field Monitor - 1	1	1	SONY	PVM-9L2	A	
2-864	Equipment for ENG	Monitoring Equipment	Field Monitor - 2	1	1	SONY	PVM-9L2	A	
2-865	Equipment for ENG	Monitoring Equipment	Field Monitor - 3	1	1	SONY	PVM-9L2	A	
2-868	Equipment for ENG	Monitoring Equipment	Field Monitor - 4	1	1	SONY	PVM-9L2	A	
2-868	Equipment for ENG	Monitoring Equipment	Field Monitor - 5	1	1	SONY	PVM-9L2	A	
2-869	Equipment for ENG	Monitoring Equipment	Field Monitor - 6	1	1	SONY	PVM-9L2	A	
2-870	Equipment for ENG	Monitoring Equipment	Field Monitor - 7	1	1	SONY	PVM-9L2	A	
2-871	Equipment for ENG	Monitoring Equipment	Field Monitor - 8	1	1	SONY	PVM-9L2	A	
2-872	Equipment for ENG	Monitoring Equipment	Stereo headphones - 1	1	1	SONY	MDR-CD2000	C	
2-873	Equipment for ENG	Monitoring Equipment	Stereo headphones - 2	1	1	SONY	MDR-CD2000	C	

A-5-18

Current Condition of the equipment and spares (Lot-2)

(Opndltly A=Functional, B=Repaidd, C=Fault)

Ref. No.	Category 1	Category 2	Item	Orginal Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-674	Equipment for ENG	Monitoring Equipment	Stereo headphones - 3	1		SONY	MDR-CD2000	C	
2-675	Equipment for ENG	Monitoring Equipment	Stereo headphones - 4	1		SONY	MDR-CD2000	A	
2-676	Equipment for ENG	Monitoring Equipment	Stereo headphones - 5	1		SONY	MDR-CD2000	A	
2-677	Equipment for ENG	Monitoring Equipment	Stereo headphones - 6	1		SONY	MDR-CD2000	A	
2-678	Equipment for ENG	Monitoring Equipment	Stereo headphones - 7	1		SONY	MDR-CD2000	A	
2-679	Equipment for ENG	Monitoring Equipment	Stereo headphones - 8	1		SONY	MDR-CD2000	A	
2-680	Equipment for ENG	Lighting Equipment	Battery light set - 1	1		TOSHIBA LIGHTTEC	LB-8II SET	B	
2-681	Equipment for ENG	Lighting Equipment	Battery light set - 2	1		TOSHIBA LIGHTTEC	LB-8II SET	B	
2-682	Equipment for ENG	Lighting Equipment	Battery light set - 3	1		TOSHIBA LIGHTTEC	LB-8II SET	B	
2-683	Equipment for ENG	Lighting Equipment	Battery light set - 4	1		TOSHIBA LIGHTTEC	LB-8II SET	A	
2-684	Equipment for ENG	Lighting Equipment	Battery light set - 5	1		TOSHIBA LIGHTTEC	LB-8II SET	A	
2-685	Equipment for ENG	Lighting Equipment	Battery light set - 6	1		TOSHIBA LIGHTTEC	LB-8II SET	A	
2-686	Equipment for ENG	Lighting Equipment	Battery light set - 7	1		TOSHIBA LIGHTTEC	LB-8II SET	A	
2-687	Equipment for ENG	Lighting Equipment	Battery light set - 8	1		TOSHIBA LIGHTTEC	LB-8II SET	A	
2-688	Equipment for ENG	Lighting Equipment	Lighting kit - 1	1		TOSHIBA	UK-30A	A	
2-689	Equipment for ENG	Lighting Equipment	Lighting kit - 2	1		TOSHIBA	UK-30A	A	
2-690	Equipment for ENG	Lighting Equipment	Lighting kit - 3	1		TOSHIBA	UK-30A	A	
2-691	Equipment for ENG	Lighting Equipment	Red reflecting board	1		HORILIGHT COLOR	35584(000x700)	A	
2-692	OB Van	Video Equipment	Portable color camera for OB Van - 1	1		SONY	BVP-810P	A	
2-693	OB Van	Video Equipment	Portable color camera for OB Van - 2	1		SONY	BVP-810P	A	
2-694	OB Van	Video Equipment	Portable color camera for OB Van - 3	1		SONY	BVP-810P	C	
2-695	OB Van	Video Equipment	Digital video switche for OB Van	1		SONY	DVS-700AP	A	
2-696	OB Van	Video Equipment	Edging controller	1		SONY	PVE-600	A	
2-697	OB Van	Video Equipment	Digital video recorder TBC Remote - 1	1		SONY	DVWA500P	A	
2-698	OB Van	Video Equipment	Digital video recorder TBC Remote - 2	1		SONY	DVWA500P	C	
2-699	OB Van	Video Equipment	Digital video recorder TBC Remote - 3	1		SONY	DVWA500P	B	
2-700	OB Van	Video Equipment	Character Generator	1		INSORIBER Japan	GG8460	C	
2-701	OB Van	Video Equipment	Interface unit for OB Van	1		SONY	PFV-LD/PAC	A	
2-702	OB Van	Video Equipment	Patch panel	1		SONY	***	A	
2-703	OB Van	Video Equipment	Test chart for OB Van	1		MURAKAMI	G5-21.6REG/A3	A	
2-704	OB Van	Audio Equipment	Audio mixer for OB Van	1		SONY	SRP-V200	C	
2-705	OB Van	Audio Equipment	Portable mixer for OB Van (12ch)	1		TAMURA	AMX-12	A	
2-706	OB Van	Audio Equipment	CD Recorder	1		SONY	CDR-W68	C	
2-707	OB Van	Audio Equipment	MD Recorder - 1	1		TASCAM	MD-801RmkI	C	
2-708	OB Van	Audio Equipment	MD Recorder - 2	1		TASCAM	MD-801RmkII	A	
2-709	OB Van	Audio Equipment	Dynamic microphone	1		SONY	F-780	A	
2-710	OB Van	Audio Equipment	Dynamic microphone	1		SONY	F116	A	
2-711	OB Van	Audio Equipment	Lavalier microphone	1		SONY	ECM-44B	A	
2-712	OB Van	Audio Equipment	Gun microphone	1		audio-technica	AT4079#	A	
2-713	OB Van	Audio Equipment	Hand aid	1		audio-technica	AT840B	A	
2-714	OB Van	Audio Equipment	Windshield	1		audio-technica	AT81059S	A	
2-715	OB Van	Audio Equipment	Carrying case for Gun Mic	1		SONY	***	A	
2-716	OB Van	Audio Equipment	FISHROLE	1		TAKASAGO	HB-3K	A	
2-717	OB Van	Audio Equipment	Microphone boom stand Small - 1	1		SONY	B-305C	A	
2-718	OB Van	Audio Equipment	Microphone boom stand Small - 2	1		SONY	B-305C	A	
2-719	OB Van	Audio Equipment	Microphone floor stand - 1	1		SONY	B-500A	A	
2-720	OB Van	Audio Equipment	Microphone floor stand - 2	1		SONY	B-500A	A	
2-721	OB Van	Audio Equipment	Microphone table stand - 1	1		audio-technica	AT1062	A	
2-722	OB Van	Audio Equipment	Microphone table stand - 2	1		audio-technica	AT1062	A	
2-723	OB Van	Audio Equipment	Microphone Cable 3M - 1	1		CANARE	EC03	A	
2-724	OB Van	Audio Equipment	Microphone Cable 3M - 2	1		CANARE	EC03	A	
2-725	OB Van	Audio Equipment	Microphone Cable 3M - 3	1		CANARE	EC03	A	
2-726	OB Van	Audio Equipment	Microphone Cable 3M - 4	1		CANARE	EC03	A	
2-727	OB Van	Audio Equipment	Microphone Cable 3M - 5	1		CANARE	EC03	A	
2-728	OB Van	Audio Equipment	Microphone Cable 3M - 6	1		CANARE	EC03	A	
2-729	OB Van	Audio Equipment	Microphone Cable 3M - 7	1		CANARE	EC03	A	
2-730	OB Van	Audio Equipment	Microphone Cable 3M - 8	1		CANARE	EC03	A	
2-731	OB Van	Audio Equipment	Microphone Cable 3M - 9	1		CANARE	EC03	A	
2-732	OB Van	Audio Equipment	Microphone Cable 3M - 10	1		CANARE	EC03	A	
2-733	OB Van	Audio Equipment	Microphone Cable 5M - 1	1		CANARE	EC05	A	
2-734	OB Van	Audio Equipment	Microphone Cable 5M - 2	1		CANARE	EC05	A	
2-735	OB Van	Audio Equipment	Microphone Cable 5M - 3	1		CANARE	EC05	A	

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Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
2-736	OB Van	Audio Equipment	Microphone Cable 5M - 4	1	1	CANARE	EC05	A	
2-737	OB Van	Audio Equipment	Microphone Cable 5M - 5	1	1	CANARE	EC05	A	
2-738	OB Van	Audio Equipment	Microphone Cable 5M - 6	1	1	CANARE	EC05	A	
2-739	OB Van	Audio Equipment	Microphone Cable 5M - 7	1	1	CANARE	EC05	A	
2-740	OB Van	Audio Equipment	Microphone Cable 5M - 8	1	1	CANARE	EC05	A	
2-741	OB Van	Audio Equipment	Microphone Cable 5M - 9	1	1	CANARE	EC05	A	
2-742	OB Van	Audio Equipment	Microphone Cable 5M - 10	1	1	CANARE	EC05	A	
2-743	OB Van	Audio Equipment	Microphone Cable 10M - 1	1	1	CANARE	EC10	A	
2-744	OB Van	Audio Equipment	Microphone Cable 10M - 2	1	1	CANARE	EC10	A	
2-745	OB Van	Audio Equipment	Microphone Cable 10M - 3	1	1	CANARE	EC10	A	
2-746	OB Van	Audio Equipment	Microphone Cable 10M - 4	1	1	CANARE	EC10	A	
2-747	OB Van	Audio Equipment	Microphone Cable 10M - 5	1	1	CANARE	EC10	A	
2-748	OB Van	Audio Equipment	Microphone Cable 10M - 6	1	1	CANARE	EC10	A	
2-749	OB Van	Audio Equipment	Microphone Cable 10M - 7	1	1	CANARE	EC10	A	
2-750	OB Van	Audio Equipment	Microphone Cable 10M - 8	1	1	CANARE	EC10	A	
2-751	OB Van	Audio Equipment	Microphone Cable 10M - 9	1	1	CANARE	EC10	A	
2-752	OB Van	Audio Equipment	Microphone Cable 10M - 10	1	1	CANARE	EC10	A	
2-753	OB Van	Audio Equipment	Interface Unit for OB Van	1	1	SONY	BKFF176A	A	
2-754	OB Van	Audio Equipment	Audio Jack panel for OB Van	1	1	CANARE	40XP-3W	A	
2-755	OB Van	Audio Equipment	Audio mixer cable system	1	1	CANARE	BR60-50	A	
2-756	OB Van	Monitoring Equipment	WFM/VIS for OB Van	1	1	TEKTRONIX Japan	WFM-801A	A	
2-757	OB Van	Monitoring Equipment	8inch Color monitor - 1	1	1	SONY	PVM-8011QM	A	
2-758	OB Van	Monitoring Equipment	8inch Color monitor - 2	1	1	SONY	PVM-8011QM	A	
2-759	OB Van	Monitoring Equipment	8inch Color monitor Rack mount	1	1	SONY	PVM-8011QM	A	
2-760	OB Van	Monitoring Equipment	8inch Color monitor - 1	1	1	SONY	PVM-8L2	A	
2-761	OB Van	Monitoring Equipment	8inch Color monitor - 2	1	1	SONY	PVM-8L2	A	
2-762	OB Van	Monitoring Equipment	8inch Color monitor - 3	1	1	SONY	PVM-8L2	A	
2-763	OB Van	Monitoring Equipment	8inch Color monitor - 4	1	1	SONY	PVM-8L2	A	
2-764	OB Van	Monitoring Equipment	8inch Color monitor - 5	1	1	SONY	PVM-8L2	A	
2-765	OB Van	Monitoring Equipment	8inch Color monitor Rack mount - 1	1	1	SONY	PVM-8L2	A	
2-766	OB Van	Monitoring Equipment	8inch Color monitor Rack mount - 2	1	1	SONY	PVM-8L2	A	
2-767	OB Van	Monitoring Equipment	8inch Color monitor Rack mount - 3	1	1	SONY	PVM-8L2	A	
2-768	OB Van	Monitoring Equipment	8inch Color monitor Rack mount - 4	1	1	SONY	PVM-8L2	A	
2-769	OB Van	Monitoring Equipment	8inch Color monitor Rack mount - 5	1	1	SONY	PVM-8L2	A	
2-770	OB Van	Monitoring Equipment	8inch Color monitor Rack mount, Attachment	1	1	SONY	PVM-8L2	A	
2-771	OB Van	Monitoring Equipment	14inch Color monitor Rack Mount - 1	1	1	SONY	PVM-14L4	A	
2-772	OB Van	Monitoring Equipment	14inch Color monitor Rack Mount - 2	1	1	SONY	PVM-14L4	A	
2-773	OB Van	Monitoring Equipment	Air monitor for OB Van	1	1	SONY	TU-1040E	A	
2-774	OB Van	Monitoring Equipment	Active monitor speaker	1	1	SONY	SMS-1P	A	
2-775	OB Van	Monitoring Equipment	Rack mount monitor - 1	1	1	SONY	AMS-100	A	
2-776	OB Van	Monitoring Equipment	Rack mount monitor - 2	1	1	SONY	AMS-100	A	
2-777	OB Van	Monitoring Equipment	Rack mount monitor - 3	1	1	SONY	AMS-100	A	
2-778	OB Van	Monitoring Equipment	Stereo headphones - 1	1	1	SONY	MDR-CD2000	A	
2-779	OB Van	Monitoring Equipment	Stereo headphones - 2	1	1	SONY	MDR-CD2000	A	
2-780	OB Van	Monitoring Equipment	Telly system for OB Van	1	1	SONY	TV-277	A	
2-781	OB Van	Signal Generator	Sync signal generator system	1	1	TEKTRONIX Japan	TG708 oo-80	A	
2-782	OB Van	Lighting Equipment	Portable lighting kit	1	1	TOSHIBA LIGHTING	UK-30A	A	
2-783	OB Van	Intercom System	Intercom system for OB Van	1	1	Clearcam JAPAN	MS-232	C	
2-784	OB Van	Microwave Link	Microwave link system	1	1	NEC	HL-B80	A	
2-785	OB Van	VHF Communication System	VHF Communication system for OB Van	1	1	VERTEX Japan	VX-2000V	A	
2-786	OB Van	Other Equipment	Digital Analog Clock	1	1	SONY	*****	A	
2-787	OB Van	Vehicle	Original Chassis	1	1	DAEWOO	CANTER	A	
2-788	OB Van	Vehicle	Modification for OB Van	1	1	SONY	*****	A	
2-789	OB Van	Vehicle	Engine generator set	1	1	KOHLER Japan	10CCPO	A	
2-790	OB Van	Vehicle	Air conditioner	1	1	Coleman JAPAN	GT00SERIEB	A	
2-791	OB Van	Vehicle	Equipment rack & Orientation table	1	1	SONY	*****	A	
2-792	OB Van	Vehicle	AV Signal I/O Board	1	1	SONY	*****	A	
2-793	OB Van	Vehicle	Operation chair	1	1	OKAMURA	CG24GZ-FM	A	
2-794	OB Van	Vehicle	AVR (6KVA)	1	1	MATSUNAGA	SVC-SP	B	
2-795	OB Van	Vehicle	Installation materials for AV Area	1	1	SONY	*****	A	
2-796	OB Van	Vehicle	Spare parts for Vehicle for OB Van	1	1	DAEWOO	*****	A	
2-797	OB Van	Vehicle	Spare parts for Vehicle for OB Van	1	1	MITSUBISHI	*****	A	
2-798	OB Van	Vehicle	Spare parts for Vehicle for OB Van	1	1	MITSUBISHI	*****	A	
2-799	Newsp Car	Video Equipment	Portable digital video recorder - 1	1	1	SONY	DVW-250P	A	

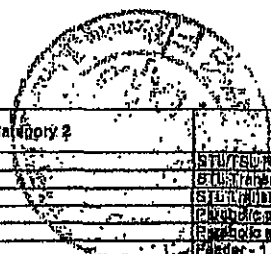
A-5-20

Current Condition of the equipment and spares (Lot-2)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Q'ty	Current Q'ty	Maker	Model	Current Condition	Remarks
2-799	News Car	Video Equipment	Portable digital video recorder - 2	1		SONY	DVV-250P	C	
2-799	News Car	Video Equipment	Portable digital video recorder - 3	1		SONY	DVV-250P	C	
2-800	News Car	Video Equipment	19 inch color monitor Rack mount - 1	1		SONY	PVM-9L2	A	
2-801	News Car	Video Equipment	19 inch color monitor Rack mount - 2	1		SONY	PVM-9L2	A	
2-802	News Car	Video Equipment	19 inch color monitor Rack mount - 3	1		SONY	PVM-9L2	A	
2-803	News Car	Video Equipment	Air monitor for News CAR - 1	1		SONY	PVM-9L2	A	
2-804	News Car	Video Equipment	Air monitor for News CAR - 2	1		SONY	PVM-9L2	A	
2-805	News Car	Video Equipment	Air monitor for News CAR - 3	1		SONY	PVM-9L2	A	
2-806	News Car	Video Equipment	Audio monitor speaker WVU meter - 1	1		SONY	****	C	
2-807	News Car	Video Equipment	Audio monitor speaker WVU meter - 2	1		SONY	****	A	
2-808	News Car	Video Equipment	Audio monitor speaker WVU meter - 3	1		SONY	****	A	
2-809	News Car	VHF Communication System	VHF Communication system for News CAR - 1	1		VERTEX Japan	****	A	
2-810	News Car	VHF Communication System	VHF Communication system for News CAR - 2	1		VERTEX Japan	****	A	
2-811	News Car	VHF Communication System	VHF Communication system for News CAR - 3	1		VERTEX Japan	****	A	
2-812	News Car	Vehicle	Vehicle - 1	1		TOYOTA	LAND-CRUISER	A	
2-813	News Car	Vehicle	Vehicle - 2	1		TOYOTA	LAND-CRUISER	A	
2-814	News Car	Vehicle	Vehicle - 3	1		TOYOTA	LAND-CRUISER	A	
2-815	News Car	Vehicle	Modification for inside - 1	1		SONY	****	A	
2-816	News Car	Vehicle	Modification for inside - 2	1		SONY	****	A	
2-817	News Car	Vehicle	Modification for inside - 3	1		SONY	****	A	
2-818	News Car	Vehicle	Modification for Electrical system portion - 1	1		SONY	****	A	
2-819	News Car	Vehicle	Modification for Electrical system portion - 2	1		SONY	****	A	
2-820	News Car	Vehicle	Modification for Electrical system portion - 3	1		SONY	****	A	
2-821	News Car	Vehicle	Equipment rack - 1	1		SONY	****	A	
2-822	News Car	Vehicle	Equipment rack - 2	1		SONY	****	A	
2-823	News Car	Vehicle	Equipment rack - 3	1		SONY	****	A	
2-824	News Car	Vehicle	Spare parts for Vehicle for News CAR	5		TOYOTA		A	
2-826	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Video analyzer	1		R&S Japan	VSA-810	A	
2-828	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Analog TV signal generator	1		Shibaoku	TG4812	A	
2-827	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Analog oscilloscope	1		Hitech Kokusai	V-1566	A	
2-828	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Digital oscilloscope - 1	1		Sony Tektronix	TD33052B	A	
2-829	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Digital oscilloscope - 2	1		Sony Tektronix	TD33052B	A	
2-830	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Audio analyzer	1		Shibaoku	AM508	A	
2-831	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment monitoring and measuring instruments	Digital TV signal generator	1		Sony Tektronix	TG2000	A	
2-832	Measuring Equipment and Maintenance Tool for Broadcasting Equipment (Lot-2)	TV broadcasting equipment maintenance tools	Tool set	1		Hitech Koki and others	****	A	
2-833	Spare Parts for Broadcasting Equipment (Lot-2)	Spare parts / TV broadcasting equipment spare parts	Master control room spare parts	1		NEC	****	A	
2-834	Spare Parts for Broadcasting Equipment (Lot-2)	Spare parts / TV broadcasting equipment spare parts	TV studio and Editing system spare parts	1		SONY	****	A	
2-836	Expendable Items	TV broadcasting equipment expendable item	CD-RW Disk	800		SONY	CD-RW50	A	
2-839	Expendable Items	TV broadcasting equipment expendable item	Video cassette tapes	250		SONY	BCT-D124L	A	
2-837	Expendable Items	TV broadcasting equipment expendable item	Video cassette tapes	500		SONY	BCT-D22	A	
2-840	Expendable Items	TV broadcasting equipment expendable item	Digital audio tapes	800		SONY	DT-80RA	A	
2-838	Expendable Items	TV broadcasting equipment expendable item	Audio cassette tapes	500		SONY	C-90HPA	A	
2-840	Expendable Items	TV broadcasting equipment expendable item	1/2 inch VTR mechanisms	1		SONY		A	
2-841	Expendable Items	TV broadcasting equipment expendable item	MD	500		SONY	MDVY-74PL	A	

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Current Condition of the equipment and spares (Lot-3)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
3-1	Equipment for STL/TSL		STL/TSL Rack (Kabul TV Station)	1	1	TOSHIBA	*****	A	
3-2	Equipment for STL/TSL		STL Transmitter - 1	1	1	TOSHIBA	*****	B	
3-3	Equipment for STL/TSL		STL Transmitter - 2	1	1	TOSHIBA	*****	A	
3-4	Equipment for STL/TSL		Parabolic antenna - 1	1	1	TOSHIBA	*****	A	
3-5	Equipment for STL/TSL		Parabolic antenna - 2	1	1	TOSHIBA	*****	A	
3-6	Equipment for STL/TSL		Feeder - 1	1	1	TOSHIBA	*****	A	
3-7	Equipment for STL/TSL		Feeder - 2	1	1	TOSHIBA	*****	A	
3-8	Equipment for STL/TSL		Transmitter exchange	1	1	TOSHIBA	*****	A	
3-9	Equipment for STL/TSL		ST L Receiver - 1	1	1	TOSHIBA	*****	A	
3-10	Equipment for STL/TSL		ST L Receiver - 2	1	1	TOSHIBA	*****	A	
3-11	Equipment for STL/TSL		Receiver excelsior	1	1	TOSHIBA	*****	A	
3-12	Equipment for STL/TSL		STL/TSL Rack (Kabul transmission station)	1	1	TOSHIBA	*****	A	
3-13	Equipment for STL/TSL		TSL Transmitter	1	1	TOSHIBA	*****	A	
3-14	Equipment for STL/TSL		TSL Receiver	1	1	TOSHIBA	*****	A	
3-15	Equipment for HDTV Editing System	Video Equipment for HD ENG	HD Camcorder - 1	1	1	SONY	HDW-750	A	
3-16	Equipment for HDTV Editing System	Video Equipment for HD ENG	HD Camcorder - 2	1	1	SONY	HDW-750	A	
3-17	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Compact mixer	1	1	SISMA	KS-342	A	
3-18	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Portable DAT	1	1	SONY	TOD-D10PROII	A	
3-19	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Dynamic Interview microphone - 1	1	1	Audio-Technica	AT804	A	
3-20	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Dynamic Interview microphone - 2	1	1	Audio-Technica	AT804	A	
3-21	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Lavalier microphones	1	1	SONY	ECM-77B	A	
3-22	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Gun microphone	1	1	Audio-Technica	AT4073A	A	
3-23	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Head set	1	1	Audio-Technica	AT8408	A	
3-24	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Windshield	1	1	Audio-Technica	AT8105SS	A	
3-25	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Carrying case for Gun Mic	1	1	SONY	*****	A	
3-26	Equipment for HDTV Editing System	Audio Equipment for BD ENG	RAKU PAD	1	1	YAKASAGO	HB-3K	A	
3-27	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Microphone cable 1.6M	1	1	CANARE	EC01B	A	
3-28	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Microphone cable 3M	1	1	CANARE	EC03	A	
3-29	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Microphone cable 6M - 1	1	1	CANARE	EC05	A	
3-30	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Microphone cable 6M - 2	1	1	CANARE	EC06	A	
3-31	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Microphone cable 10M - 1	1	1	CANARE	EC10	A	
3-32	Equipment for HDTV Editing System	Audio Equipment for BD ENG	Microphone cable 10M - 2	1	1	CANARE	EC10	A	
3-33	Equipment for HDTV Editing System	Audio Equipment for BD ENG	LINE Synchronized Walkmill	1	1	SONY	WRT-8B	A	
3-34	Equipment for HDTV Editing System	Monitoring Equipment for HD ENG	Field monitor	1	1	SONY	BVM-DPR8E	A	
3-35	Equipment for HDTV Editing System	Monitoring Equipment for HD ENG	Stereo headphones	1	1	SONY	MDR-OD2080	A	
3-36	Equipment for HDTV Editing System	Lighting Equipment for HD ENG	Battery light set	1	1	TOSHIBA LIGHTEC	LS-811 SET	A	
3-37	Equipment for HDTV Editing System	Video Equipment for HD Editing	Digital video recorder - 1	1	1	SONY	HDW-M200P	A	
3-38	Equipment for HDTV Editing System	Video Equipment for HD Editing	Digital video recorder - 2	1	1	SONY	HDW-M200P	A	
3-39	Equipment for HDTV Editing System	Video Equipment for HD Editing	Digital video recorder - 3	1	1	SONY	HDW-M200P	A	
3-40	Equipment for HDTV Editing System	Video Equipment for HD Editing	Editing control unit	1	1	SONY	BVE-700	A	
3-41	Equipment for HDTV Editing System	Video Equipment for HD Editing	HD/SD Converter	1	1	Shibasaki	VC-21	A	
3-42	Equipment for HDTV Editing System	Audio Equipment for HD Editing	Audio mixer	1	1	GPS Japan	D/RSAM230	A	
3-43	Equipment for HDTV Editing System	Audio Equipment for HD Editing	DAT Recorder	1	1	SONY	REM-7000	A	
3-44	Equipment for HDTV Editing System	Audio Equipment for HD Editing	CD Recorder	1	1	SONY	CDR-J66	A	
3-45	Equipment for HDTV Editing System	Audio Equipment for HD Editing	MP Recorder	1	1	PASCAM	MC-801RMII	A	
3-46	Equipment for HDTV Editing System	Audio Equipment for HD Editing	Digital delay	1	1	SONY	SRP-1300	A	
3-47	Equipment for HDTV Editing System	Audio Equipment for HD Editing	Dynamic Microphone	1	1	SONY	R-780	A	
3-48	Equipment for HDTV Editing System	Audio Equipment for HD Editing	Microphone table stand	1	1	Audio-Technica	AT8082	A	
3-49	Equipment for HDTV Editing System	Audio Equipment for HD Editing	Microphone cable	1	1	CANARE	*****	A	
3-50	Equipment for HDTV Editing System	Audio Equipment for HD Editing	ANN Configuration	1	1	SONY	*****	A	
3-51	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	Digital waveform monitor	1	1	TEKTRONIX Japan	WFM-700HD	A	
3-52	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	HD 14 inch Color monitor - 1	1	1	SONY	BVM-D14H8E	A	
3-53	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	HD 14 inch Color monitor - 2	1	1	SONY	BVM-D14H8E	A	
3-54	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	HD 14 inch Color monitor - 3	1	1	SONY	BVM-D14H8E	A	
3-55	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	HD 20 inch Color monitor	1	1	SONY	BVM-D20F1R	A	
3-56	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	Active monitor speaker	1	1	SONY	SMS-2P	A	
3-57	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	Stereo headphones	1	1	SONY	MDR-CD200D	A	
3-58	Equipment for HDTV Editing System	Monitoring Equipment for HD Editing	10 - BT System	1	1	SONY	*****	A	
3-59	Equipment for HDTV Editing System	Synch Signal Generator for HD Editing	Synch signal generator System	1	1	TEKTRONIX Japan	TG700 DP.BB	A	
3-60	Equipment for HDTV Editing System	Synch Signal Generator for HD Editing	Synch signal generator System	1	1	LEADER	LT428	A	
3-61	Equipment for HDTV Editing System	Operation Console and Rack for HD Editing	System Rack	1	1	SONY	*****	A	
3-62	Equipment for HDTV Editing System	Operation Console and Rack for HD Editing	Operation console	1	1	SONY	*****	A	

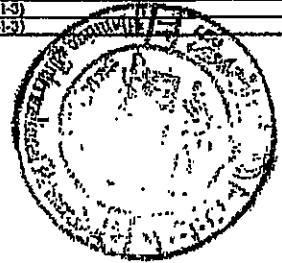
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Current Condition of the equipment and spares (Lot-3)

(Condition: A=Functional, B=Repaired, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
3-63	Equipment for HDTV Editing System	Operation Console and Rack for HD Editing	Operation chair	1		OKAMURA	OG24GZ-FM	A	
3-64	Measuring Equipment and Maintenance tool for Broadcasting Equipment (Lot-3)	TV broadcasting equipment monitoring and measuring instruments	Spectrum analyzer	1		AGILENT Japan	E4400B	A	
3-65	Measuring Equipment and Maintenance tool for Broadcasting Equipment (Lot-3)	TV Broadcasting equipment monitoring and measuring instruments	Wattmeter	1		Anritsu	ML2437A	A	
3-66	Measuring Equipment and Maintenance tool for Broadcasting Equipment (Lot-3)	TV broadcasting equipment monitoring and measuring instruments	Frequency gauge	1		Advantest	R6373	A	
3-67	Measuring Equipment and Maintenance tool for Broadcasting Equipment (Lot-3)	TV broadcasting equipment monitoring and measuring instruments	Fixed attenuator	1		Anritsu	10003	A	
3-68	Measuring Equipment and Maintenance tool for Broadcasting Equipment (Lot-3)	TV broadcasting equipment maintenance tools	Tool set	1		PiCa Corp. and others	***	A	
3-69	Spare Parts for Broadcasting Equipment (Lot-3)		CD-RW Disk	100		SONY	CD-RW60	A	
3-70	Spare Parts for Broadcasting Equipment (Lot-3)		Video cassette tape	100		SONY	BCI-D124L	A	
3-71	Spare Parts for Broadcasting Equipment (Lot-3)		Video cassette tape	250		SONY	BCT-D22	A	
3-72	Spare Parts for Broadcasting Equipment (Lot-3)		Digital audio tape	500		SONY	DT-90RA	A	
3-73	Spare Parts for Broadcasting Equipment (Lot-3)		Audio cassette tape	800		SONY	C-50HFA	A	
3-74	Spare Parts for Broadcasting Equipment (Lot-3)		1/2 inch VTR mechanism	1		SONY		A	
3-75	Spare Parts for Broadcasting Equipment (Lot-3)		MD	100		SONY	MDW-74PL	A	



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Current Condition of the equipment and spares (TV TX)

(Condition: A=Functional, B=Repaced, C=Fault)

Ref. No.	Category 1	Category 2	Item	Original Qty	Current Qty	Maker	Model	Current Condition	Remarks
4-1	TV Transmitter Equipment		All solid state 2 kW TV transmitter - 1	1		NEC	PCN-1002SSH/1	A	
4-2	TV Transmitter Equipment		All solid state 2 kW TV transmitter - 2	1		NEC	PCN-1002SSH/1	A	
4-3	TV Transmitter Equipment		RF relay/cover switch equipment	1		NEC	TXSU-1-200	B	
4-4	TV Transmitter Equipment		RF program input and monitoring equipment	1		NEC	Special products	A	
4-5	TV Transmitter Equipment		Input board/monitor	1		NEC	NAX-30D	A	
4-6	Measuring Equipment	Rack Mounted Type Measuring Equipment	TV video signal generator	1		TEKTRONIX Japan	TG200	A	
4-7	Measuring Equipment	Rack Mounted Type Measuring Equipment	Audio test signal generator with distortion meter	1		Shimadzu	AM500	A	
4-8	Measuring Equipment	Rack Mounted Type Measuring Equipment	Capacitor probe	1		IWAYSU Electric	SS-7001	A	
4-9	Measuring Equipment	Rack Mounted Type Measuring Equipment	Frequency counter	1		ANRITSU	MF-2412B	A	
4-10	Measuring Equipment	Rack Mounted Type Measuring Equipment	TV Sideband analyzer	1		Nihon Telexnik	201SV3	A	
4-11	Measuring Equipment	Rack Mounted Type Measuring Equipment	Service delay measuring equipment	1		Shimadzu	TD200	A	
4-12	Measuring Equipment	Rack Mounted Type Measuring Equipment	Breaker panel	1		NEC	Special products	A	
4-13	Measuring Equipment	Rack Mounted Type Measuring Equipment	Assembly Rack	1		NEC	Special products	A	
4-14	Measuring Equipment	Potable Type Measuring Devices	Spectrum analyzer	1		ANRITSU	MS2002A	A	
4-15	Measuring Equipment	Potable Type Measuring Devices	RF power meter with power sensor	1		ANRITSU	ML2437A, MA2472B	C	
4-16	Measuring Equipment	Potable Type Measuring Devices	Variable attenuator (50 ohms)	1		Tamagawa Densai	TRA-112	A	
4-17	Measuring Equipment	Potable Type Measuring Devices	Network analyzer	1		Advantest	R3780G	A	
4-18	Measuring Equipment	Potable Type Measuring Devices	Distal/dump meter	2		Yokogawa M&O Corp.	GU205	A	
4-18	Measuring Equipment	Potable Type Measuring Devices	Multimeter	2		Yokogawa M&O Corp.	73402	A	
4-20	Measuring Equipment	Potable Type Measuring Devices	Field strength meter with tipod and antenna	1		ANRITSU	MF-24B and others	A	
4-21	Measuring Equipment	Potable Type Measuring Devices	Portable GPS	2		Garmin	GPS78	A	
4-22	Measuring Accessories		Measuring equipment attachments	1		ANRITSU	Special products	A	
4-23	Monitor Equipment		Color TV receiver with antenna, caster	1		SONY	KV-XA21M01	C	
4-24	Power Supply Equipment		Automatic voltage regulator	1		Selden Kogyo	TAM-20A, 20B	A	
4-25	VHF Communication Link		VHF communication link	1		VERTEX, Japan	VX-200V	A	
4-26	Transmission Antenna Equipment		Transmission antenna equipment	1		Denki Kogyo	Special products	A	
4-27	Spares Parts	Module Boards for TV Exciter	Audio modulator board	1		NEC	HPB-101	A	
4-28	Spares Parts	Module Boards for TV Exciter	Analog/digital conversion board	1		NEC	HPB-3102	A	
4-29	Spares Parts	Module Boards for TV Exciter	Digital video compensation board	1		NEC	HPB-3103	A	
4-30	Spares Parts	Module Boards for TV Exciter	IF converter board	1		NEC	HPB-3104	A	
4-31	Spares Parts	Module Boards for TV Exciter	Video modulator board	1		NEC	HPB-3104	A	
4-32	Spares Parts	Module Boards for TV Exciter	VHF mixer board for vhf and vhf-ural	1		NEC	HPB-3109	A	
4-33	Spares Parts	Module Boards for TV Exciter	Synthesizer board	1		NEC	HPB-3109	A	
4-34	Spares Parts	Module Boards for TV Exciter	Power supply	1		NEC	HPB-3105	A	
4-35	Spares Parts		Exciter fan	1		NEC	Special products	A	
4-36	Spares Parts		Visual power amplifier	1		NEC	V1200GH	A	
4-37	Spares Parts		Aural power amplifier	1		NEC	V800GH	A	
4-38	Spares Parts		Power supply for power amplifier	1		NEC	55A50VPS	A	
4-39	Spares Parts		Ring choke transformer for power amplifier	1		NEC	25K1543	A	
4-40	Spares Parts		Alphamers	2		NEC	Special products	A	
4-41	Spares Parts		Video distribution amplifier	1		NEC	TAG-201	A	
4-42	Spares Parts		Audio limiting amplifier	1		NEC	Special products	A	
4-43	Maintenance Tools		Maintenance tools	2		NECIC	Special products	A	
4-44	Installation Materials		Installation materials	1		NECIC	Special products	A	
4-45	Equipment for Transfer		Equipment for transfer	1		Hikachi Concan	Special products	A	
4-46	10 W TV Repeater	TV Repeater	10 W TV Repeater	1		NEC	TR-3010CV	A	
4-47	10 W TV Repeater	TV Repeater	Receiving antenna	1		Denki Kogyo	Special products	A	
4-48	10 W TV Repeater	TV Repeater	Transmission antenna	1		Denki Kogyo	Special products	A	
4-49	10 W TV Repeater	TV Repeater	Installation materials	1		NECIC	Special products	A	
4-50	Spares Parts	Main Modules	RG module	1		NEC		A	
4-51	Spares Parts	Main Modules	TG module	1		NEC		A	
4-52	Spares Parts	Main Modules	TA module	1		NEC		A	
4-53	Spares Parts	Main Modules	10 W PA module	1		NEC		A	
4-54	Spares Parts	Main Modules	PS module	1		NEC		A	
4-55	Spares Parts	Spares	Expendables (fuses, lamp, air filter)	2		NEC	Special products	A	

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SCOPE OF WORK
ON
THE FOLLOW-UP COOPERATION
ON
THE PROJECT FOR IMPROVEMENT OF TV BROADCASTING
EQUIPMENT IN KABUL
AND
THE PROJECT FOR IMPROVEMENT OF TV BROADCASTING
FACILITIES IN KABUL
AGREED UPON
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
RADIO TELEVISION AFGHANISTAN



Dated February 17, 2013

1. Introduction

In response to the request from the Government of the Islamic Republic of Afghanistan (hereinafter referred to as “GOA), the Japan International Cooperation Agency (hereinafter referred to as “JICA”) decided to extend the Follow-up Cooperation on “the Project for Improvement of TV Broadcasting Equipment in Kabul” and “the Project for Improvement of TV Broadcasting Facilities in Kabul” (hereinafter referred to as “the Work”).

Accordingly, JICA will undertake the Work in cooperation with Radio Television Afghanistan (RTA).

The present document sets forth the Scope of Work for the Work as agreed upon between RTA and JICA.

2. Scope of Work

The Work shall cover the following:

- (1) Procurement of the attached list of equipment (Annex 1).
- (2) Dispatch of necessary technician(s)/engineer(s) to RTA, to provide technical assistance for the installation and the instruction on operation and maintenance of the procured equipment.
- (3) Instruction on operation and maintenance of the procured equipment in Japan for necessary numbers of RTA engineers.

3. Work Schedule

The Work will be carried out in accordance with the tentative work schedule as per attached Annex 2.

4. Undertaking by JICA

JICA shall undertake the Scope of Work stipulated in Article 2. under contracts with an appropriate supplier(s).

5. Undertaking by RTA

For smooth implementation of the Work, RTA shall undertake the following:



- (1) To secure sufficient space necessary when the Work is implemented;
- (2) To ensure prompt customs clearance of the products and to assist internal transportation of the products in Afghanistan;
- (3) To ensure that customs duties and other similar fiscal levies which may be imposed in Afghanistan with respect to the purchase of the products and the services be exempted;
- (4) To exempt Japanese nationals from internal taxes and other similar fiscal levies which may be imposed in Afghanistan with respect to the purchase of the products and the services;
- (5) To accord Japanese nationals whose services may be required in connection with the supply of equipment as may be necessary for their entry into Afghanistan and stay therein for the performance of their work, if the services above are judged necessary after further examination;
- (6) To ensure that the products be installed by RTA;
- (7) To ensure that the products be maintained and used properly and effectively to make best use of the products in future, including purchase of all the necessary consumables for continuous use of the products;
- (8) To provide JICA with necessary information upon the request of JICA;
- (9) To bear all the expenses, other than those to be borne by the Work, necessary for the transportation and installation of the product, when necessary.

6. Mutual Consultations

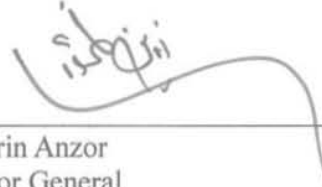
RTA and JICA shall consult with each other on any matters that may arise from or be connected with the Work prior to actual response to the matters.



Kabul, February 17, 2013

金繩知樹

Tomoki KANENAWA
Deputy Resident Representative,
JICA Afghanistan Office,
Japan International Cooperation Agency



M. Zarin Anzor
Director General
Radio Television Afghanistan

Annex 1: List of Equipment

Annex 2: Tentative Work Schedule



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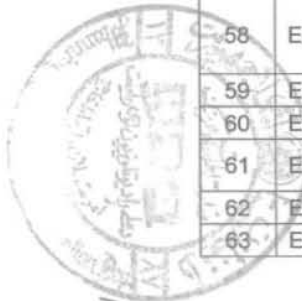
Ref. No.	Category	Category 2	Item	Sele. Q'ty	Maker	Model	Remarks
1	Lighting Equipment	Lighting Equipment	Lamp for Production Studio	50	FUJI LAMP	JP220V-1000W C/G	Consumables
2	Lighting Equipment	Lighting Equipment	Lamp for Production Studio	20	FUJI LAMP	JP220V-2000W C/G	Consumables
3	Lighting Equipment	Lighting Equipment	Lamp for News Studio	50	USHIO	J22V-300W	Consumables
4	Lighting Equipment	Lighting Equipment	Lamp for News Studio	100	USHIO	J22V-500W	Consumables
5	Equipment for Master Control Room	Video Equipment	Character generator	1	COMPIX MEDIA	ConverG1 SD-SDI	Replacement
6	Equipment for Master Control Room	Video Equipment	2X1 V/A Switcher	10	NEC	Push Switch	Replacement
7	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier	6	GVG Japan	8941	Replacement
8	Equipment for Master Control Room	Video Equipment	Cooling Fan	3	GVG Japan	F6025E24B2 DC24 V 0.125A)	Replacement
9	Equipment for Master Control Room	Video Equipment	A/D Converter without FS	5	GVG Japan	8960DEC	Replacement
10	Equipment for Master Control Room	Video Equipment	A/D Converter without FS	1	GVG Japan	8960DEC	Spare
11	Equipment for Master Control Room	Video Equipment	D/A Converter	2	GVG Japan	8960ENC	Replacement
12	Equipment for Master Control Room	Video Equipment	Analog video distribution amplifier	4	NEC	TAD-201	Replacement
13	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier	4	NEC	ADU-145	Replacement
14	Equipment for Master Control Room	Audio Equipment	CD player / Stereo cassette recorder	1	TASCAM	CD-A750	Replacement (Substitution)
15	Equipment for Master Control Room	Audio Equipment	A/D Converter	2	NEC	ADU-115	Replacement (Substitution)
16	Equipment for Master Control Room	Audio Equipment	D/A Converter	2	NEC	ADU-134	Replacement (Substitution)
17	Equipment for Master Control Room	Monitoring Equipment	Training for digital waveform monitor	1	TBD	WFM-601A	Training
18	Equipment for Master Control Room	Monitoring Equipment	Training for digital audio monitor	1	TBD	764	Training
19	Equipment for Master Control Room	Monitoring Equipment	9inch Color monitor	1	SONY	LMD-941W	Replacement (Substitution)
20	Equipment for Master Control Room	Monitoring Equipment	15inch Color monitor	15	SONY	LMD-1510W	Replacement (Substitution)
21	Equipment for Master Control Room	Monitoring Equipment	21inch Color monitor	1	SONY	LMD-2110W	Replacement (Substitution)
22	Equipment for Master Control Room	Monitoring Equipment	26inch Air monitor	1	SONY	KDL-26EX540	Replacement (Substitution)
23	Equipment for Master Control Room	Sync Signal Generator	Repair in Japan (LCD module)	1	TEKTRONIX	TG700	Repair
24	Equipment for Master Control Room	Intercom System	Intercom system key panel	2	RTS	MKP-12	Replacement
25	Equipment for Master Control Room	Intercom System	Intercom system key panel	1	RTS	WKP-4	Replacement
26	Equipment for Master Control Room	Other Equipment	Master clock system	0	ESE	ES-185U,X-5112x15,E S-996U	
27	Equipment for Production Studio	Video Equipment	TRIAx cable (20m)	1	CANARE	TRIAx cable (20m)	Replacement
28	Equipment for Production Studio	Video Equipment	Focus demand bracket	1	CANON	CLAMPER CR-10	Replacement
29	Equipment for Production Studio	Video Equipment	Studio color camera pedestal	1	SHOTOKU	TP-90A	Replacement
30	Equipment for Production Studio	Video Equipment	Prompter with camera	1	FUJINON	WP-20B-20C	Replacement
31	Equipment for Production Studio	Video Equipment	Prompter with camera	1	FUJINON	WP-20B-20C	Addition
32	Equipment for Production Studio	Audio Equipment	CD player / Stereo cassette recorder	1	TASCAM	CD-A750	Replacement



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Annex 1

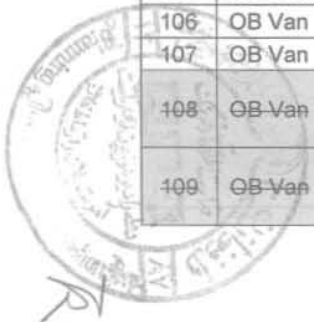
33	Equipment for Production Studio	Audio Equipment	Condenser microphone	4	SONY	C-38B	Replacement
34	Equipment for Production Studio	Audio Equipment	Dynamic microphone	4	SONY	F-780	Replacement
35	Equipment for Production Studio	Audio Equipment	Lavalier microphone	4	SONY	ECM-44B + WRT-8B	Replacement, including UHF synthesized transmitter(No.143)
36	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor	1	SONY	LMD-941W	Replacement (Substitution)
37	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor rack mount	2	SONY	LMD-941W	Replacement (Substitution)
38-1	Equipment for Production Studio	Monitoring Equipment	15inch Color monitor	8	SONY	LMD-1510W	Replacement (Substitution)
38-2	Equipment for Production Studio	Monitoring Equipment	SDI 4:2:2 Adapter (for 15inch color monitor (No.38-1))	4	SONY	BKM-320D	Addition
39	Equipment for Production Studio	Monitoring Equipment	21inch Color monitor	3	SONY	LMD-2110W	Replacement (Substitution)
40	Equipment for Production Studio	Monitoring Equipment	Control room monitor speaker	1	JBL	JBL4305H WX	Replacement (Substitution)
41	Equipment for Production Studio	Monitoring Equipment	Stereo headphone	2	SONY	MDR-Z1000	Replacement (Substitution)
42	Equipment for Production Studio	Monitoring Equipment	Earphone	5	audio-technica	DMK-32	Replacement (Substitution)
43	Equipment for Production Studio	Sync Signal Generator	Repair in Japan (LCD module)	1	TEKTRONIX	TG700 op.88	Repair
44	Equipment for News Studio	Video Equipment	Repair in Japan (focus motor drive mechanism)	1	CANON	17ax7.7B4 IASD SX12	Repair
45	Equipment for News Studio	Video Equipment	Prompter	0	AUTOSCRIPT	WGS-12	This item was not included in the original project.
46	Equipment for News Studio	Video Equipment	One set of Push switches for DFS-700AP	1	SONY	Push switches	Replacement
47	Equipment for News Studio	Video Equipment	Character generator	1	COMPIX MEDIA	ConverG1 SD-SDI	Replacement
48	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L753A	Replacement
49	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L703A	Replacement
50	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L653	Replacement
51	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L642	Replacement
52	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L641	Replacement
53	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L613C	Replacement
54	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L612	Replacement
55	Equipment for News Studio	Video Equipment	Interface unit	1	SONY	BKPF-L603	Replacement
56	Equipment for News Studio	Audio Equipment	Condenser microphone	2	SONY	C-38B	Replacement
57	Equipment for News Studio	Audio Equipment	Dynamic microphone	2	SONY	F-780	Replacement
58	Equipment for News Studio	Audio Equipment	Lavalier microphone	2	SONY	ECM-44B + WRT-8B	Replacement, including UHF synthesized transmitter(No.143)
59	Equipment for News Studio	Monitoring Equipment	15inch Color monitor	10	SONY	LMD-1510W	Replacement (Substitution)
60	Equipment for News Studio	Monitoring Equipment	21inch Color monitor	3	SONY	LMD-2110W	Replacement (Substitution)
61	Equipment for News Studio	Monitoring Equipment	32inch Floor Color monitor with stand	1	SONY	KDL-32HX750	Replacement (Substitution)
62	Equipment for News Studio	Monitoring Equipment	Control room monitor speaker	1	JBL	JBL4305H WX	Replacement (Substitution)
63	Equipment for News Studio	Monitoring Equipment	Stereo headphone	3	SONY	MDR-Z1000	Replacement (Substitution)



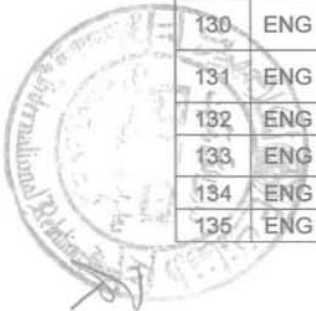
64	Equipment for News Studio	Monitoring Equipment	Earphone	5	audio-technica	DMK-32	Replacement (Substitution)
65	Equipment for News Studio	Monitoring Equipment	Headset for TB	2	CLEARCOM	CC-100	This item should be added according to survey analysis.
66	Equipment for News Studio	Sync Signal Generator	Repair in Japan (LCD module)	1	TEKTRONIX	TG700 op.88	Repair
67	Equipment for Editing System (1:1 Editing System)	Monitoring Equipment	Stereo headphone	4	SONY	MDR-Z1000	Replacement (Substitution)
68	Equipment for Editing System (A/B Roll Editing)	Video-Equipment	Digital video-switcher for A/B-Roll editing system	0	SONY	DVS-2000C	Changed to Non-linear editing system.
69	Equipment for Editing System (A/B Roll Editing)	Video-Equipment	Digital video-effector for A/B Roll editing system	0	SONY	DME-3000/PAG	Changed to Non-linear editing system.
70	Equipment for Editing System (A/B Roll Editing)	Video-Equipment	Editing control unit for A/B Roll editing system	0	SONY	BVE-2000	Changed to Non-linear editing system.
71	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Workstation	1	SONY	Workstation	Substitution of A/B Roll Editing System
72	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	24inch color monitor	2	SONY	SSM-L24F1	Substitution of A/B Roll Editing System
73	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Monitor stand	2	SONY	SSMA-SU10	Substitution of A/B Roll Editing System
74	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Audio monitor speaker	2	YAMAHA	MSP-3	Substitution of A/B Roll Editing System
75	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Stereo headphone	2	SONY	MDR-7506	Substitution of A/B Roll Editing System
76	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Audio Mixer	1	YAMAHA	MG166C	Substitution of A/B Roll Editing System
77	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	CD player / Stereo cassette recorder	1	TASCAM	CD-A750	Substitution of A/B Roll Editing System
78	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Dynamic microphone	1	SONY	F-780	Substitution of A/B Roll Editing System
79	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Microphone stand	1	TOA	ST-65A	Substitution of A/B Roll Editing System
80	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	17inch color monitor	2	SONY	LMD-1751Q	Substitution of A/B Roll Editing System
81	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	SDI input adaptor	2	SONY	BKM-243HS	Substitution of A/B Roll Editing System
82	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Monitor stand	2	SONY	SU-561	Substitution of A/B Roll Editing System
83	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	XDCAM station	1	SONY	XDS-PD1000	Substitution of A/B Roll Editing System
84	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	SxS memory reader/writer	1	SONY	SBAC-US10	Substitution of A/B Roll Editing System
85	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	Ethernet switch	1	Cisco	WS-C2960S-24TS-L	Substitution of A/B Roll Editing System
86	Equipment for Editing System (Non-linear Editing)	Non-linear Editing System	XDCAM disk 50GB	20	SONY	PFD50DLA	Substitution of A/B Roll Editing System
87	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Character generator	2	COMPIX MEDIA	ConverG1 SD-SDI	Replacement (Substitution)



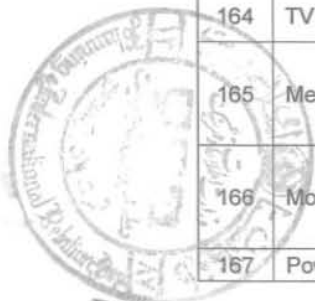
88	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Spare faders for Audio mixer O3D	10	YAMAHA	Spare faders for O3D	Replacement
89	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	CD player / Stereo cassette recorder	1	TASCAM	CD-A750	This item should be added according to survey analysis.
90	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	9inch Color monitor rack mount	4	SONY	LMD-941W	Substitution
91	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	9inch Color monitor	1	SONY	LMD-941W	Quantity was decreased due to system change to Non-linear editing system.
92	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	15inch Color monitor	1	SONY	LMD-1510W	Quantity was decreased due to system change to Non-linear editing system.
93	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Stereo headphone	2	SONY	MDR-Z1000	This item should be increased according to survey analysis.
94	Equipment for Editing System (A/B Roll Editing)	Sync Signal Generator	Repair in Japan (LCD module)	1	TEKTRONIX	TG700 op.88	Repair
95	Equipment for Editing System (Announce Studio)	Video Equipment	Character generator	1	COMPIX MEDIA	ConverG1 SD-SDI	Replacement (Substitution)
96	Equipment for Editing System (Announce Studio)	Audio Equipment	Condenser microphone	1	SONY	C-38B	Replacement (Substitution)
97	Equipment for Editing System (Announce Studio)	Audio Equipment	Dynamic microphone	1	SONY	F-780	Replacement (Substitution)
98	Equipment for Editing System (Announce Studio)	Audio Equipment	Lavalier microphone	1	SONY	ECM-44B + WRT-8B	Replacement (Substitution), including UHF synthesized transmitter(No.143)
99	Equipment for Editing System (Announce Studio)	Monitoring Equipment	32inch Floor Color monitor with stand	1	SONY	KDL-32HX750	Replacement (Substitution)
100	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Control room monitor speaker	1	JBL	JBL4305H WX	Replacement (Substitution)
101	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Studio monitor speaker for Announce studio	1	SONY	S55+BWS20-190	Replacement (Substitution)
102	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Earphone	5	audio-technica	DMK-32	This item should be increased according to survey analysis.
103	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Headset for TB	2	CLEARCOM	CC-100	This item should be added according to survey analysis.
104	OB Van	Video Equipment	SD Wireless Camera	1	SONY	PMW-320K+IDX CW-7	Replacement (Substitution)
105	OB Van	Video Equipment	Focus demand	3	CANON	FPD-400	Replacement
106	OB Van	Video Equipment	Zoom demand	3	SONY	ZSD-300M	Replacement
107	OB Van	Video Equipment	Carrying cases for camera	3	SONY	Custom made	Replacement
108	OB Van	Video Equipment	Carrying cases for tripod	0	SONY	Custom-made	It is judged this item is not urgent, and can be repaired in Afghanistan.
109	OB Van	Video Equipment	Carrying cases for dolly	0	SONY	Custom-made	It is judged this item is not urgent, and can be repaired in Afghanistan.



110	OB Van	Video Equipment	CCU DM unit	1	SONY	DM-94 1-653-238-15	Replacement (Substitution)
111	OB Van	Video Equipment	VTR (Repair in Dubai)	2	SONY	DVW-A500P	Repair
112	OB Van	Video Equipment	Character Generator	1	COMPIX MEDIA	CompactCG SD-SDI	Replacement (Substitution)
113	OB Van	Audio Equipment	Audio mixer for OB Van	1	YAMAHA	MG124CX	Because the manufacturer support of SRP-V200 has ended, it changes to the spare mixer.
114	OB Van	Audio Equipment	Dynamic microphone	1	SONY	F-780	Replacement
115	OB Van	Monitoring Equipment	Stereo headphone	2	SONY	MDR-Z1000	Replacement (Substitution)
116	OB Van	Monitoring Equipment	Headset for TB	2	CLEARCOM	CC-100	This item should be added according to survey analysis.
117	OB Van	Microwave Link	Microwave link system (FPU)	0	NEC	TVL-D500B	Replacement
118	OB Van	Vehicle	TRIAx Cable with connectors 100m	3	CANARE	TRIAx Cable 100m	Replacement
119	OB Van	Video Equipment	Audio Multi Cable with connectors 100 m	3	CANARE	Audio Multi Cable 100 m	Replacement
120	News Car	Video Equipment	Portable digital video recorder	0	SONY	DVW-250P	Because the manufacturer support will be ended soon, it changes to the SD memory camera.
121	News Car	Video Equipment	9inch Color monitor rack mount	1	SONY	LMD-941W	Replacement (Substitution)
122	News Car	Video Equipment	Air monitor for News CAR	1	SONY	LMD-941W	Replacement (Substitution)
123	News Car	Video Equipment	Audio monitor speaker W/VU meter	1	SONY	Custom made	Replacement
124	News Car	VHF Communication System	VHF transceiver	1	VERTEX Japan	VX-2000V	Replacement
125	ENG	Video Equipment	Camcorder (Overhaul)	0	SONY	DVW-707P	Because the manufacturer support will be ended soon, it changes to the SD memory camera.
126	ENG	Video Equipment	SD memory camera	8	SONY	PMW-320K	Substitution of DVW-250P and DVW-707P
127	ENG	Video Equipment	SxS Memory Card for SD memory camera	12	SONY	SBS-64G1A	Substitution of DVW-250P and DVW-707P
128	ENG	Video Equipment	SD card adaptor for SD memory camera	8	SONY	MEAD-SD01	Substitution of DVW-250P and DVW-707P
129	ENG	Video Equipment	Battery pack for SD memory camera	8	SONY	2BP-U60	Substitution of DVW-250P and DVW-707P
130	ENG	Video Equipment	Battery charger for SD memory camera	8	SONY	BC-U2	Substitution of DVW-250P and DVW-707P
131	ENG	Video Equipment	Soft carrying case for SD memory camera	8	SONY	LC-DS300SFT	Substitution of DVW-250P and DVW-707P
132	ENG	Audio Equipment	Compact mixer	2	SIGMA	KS-342	Replacement
133	ENG	Audio Equipment	Lavalier microphone	1	SONY	ECM-77B	Replacement
134	ENG	Audio Equipment	Gun microphone	8	audio-technica	BP4073	Replacement (Substitution)
135	ENG	Audio Equipment	Hand grip	8	audio-technica	Rycote MMS-2	Replacement (Substitution)



136	ENG	Audio Equipment	Windshield	8	audio-technica	Rycote RWJ-4+RWS-4	Replacement (Substitution)
137	ENG	Audio Equipment	Carrying case for Gun Mic	8	SONY	Custom made	Replacement
138	ENG	Audio Equipment	Fish pole	3	TAKASAGO	HB-3K	Replacement
139	ENG	Audio Equipment	Microphone cable 1.5M	8	CANARE	EC015	Replacement
140	ENG	Audio Equipment	Microphone cable 3M	8	CANARE	EC03	Replacement
141	ENG	Audio Equipment	Microphone cable 5M	16	CANARE	EC05	Replacement
142	ENG	Audio Equipment	Microphone cable 10M	16	CANARE	EC10	Replacement
143	ENG	Audio Equipment	UHF Synthesized transmitter	1	SONY	WRT-8B	6 units are associated to ECM-44B(No.35,58,98)
144	ENG	Monitoring Equipment	Stereo headphone	8	SONY	MDR-Z1000	Replacement (Substitution)
145	ENG	Lighting Equipment	Battery light	8	TOSHIBA LIGHTEC	AL-LED-H-F	Replacement (Substitution)
146	ENG	Lighting Equipment	Battery for Battery light	16	NEP	Li-12	Replacement (Substitution)
147	ENG	Lighting Equipment	Battery case for Battery light	8	IDX	SC-2A	Replacement (Substitution)
148	ENG	Lighting Equipment	Battery Charger for Battery light	4	NEP	CHLI-600-2	Replacement (Substitution)
149	ENG	Lighting Equipment	Lamp for ENG	200	TOSHIBA	220V 650W for UNIFOCUS 650	Consumables
150	Power Supply Equipment	Power Supply System for Emergency	Engine Generator for STL	1	Denyo	DA-6000LS	Replacement (Substitution)
151	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3101	These items are already discontinued. It is judged that there is no emergency because these spare units procured by the original project still remain. (The transmission system has been operating for eight years without troubles, so spare units still remain.)
152	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3102	
153	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3103	
154	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3104	
155	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3105	
156	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3106	
157	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3108	
158	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	HPB-3109	
159	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	V1200GH	
160	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	V600GH	
161	TV Transmitting Equipment	--	Spare unit for taransmitter	0	NEC	56A50VPS	
162	TV Transmitting Equipment		Air Filter for 2 kW TV transmitter	4	NEC	Custom made	Consumables
163	TV Transmitting Equipment		Audio Monitor Unit for PIE	1	NEC	SP101Da	Replacement (Substitution)
164	TV Transmitting Equipment		Analog video distribution amplifier	1	NEC	TAD-201	Replacement
165	Measuring Equipment	Potable Type Measuring Devices	Power sensor for RF power meter	1	ANRITSU	MA2472B	Because the original quantity of this item is one, therefore, the request Q'ty can be reduced to one.
166	Monitor Equipment		Color TV receiver with antenna	1	SHARP	32inch LCD TV	Because the original quantity of this item is one, therefore, the request Q'ty can be reduced to one.
167	Power Supply Equipment		Transfer Switch for AVR	1	Seidenkogyo	SSK-E603E-3FD	Replacement



168	Power Supply Equipment	--	Part for AMF panel	0	Schneider- Electric	DKG-205	This item can not be procured in Japan.
169	Power Supply Equipment	--	75 kVA AVR (unit)	0	Powerex	PS-375ex	This item is already discontinued.
170	Facilities		Water pump	2	TERAL KYOKUTO	MTP40-5.75	Replacement
171	Facilities		20kVA UPS	1	YAMABISHI	SFT-20	Addition
172	Facilities		Air Conditioner	4	TBD	TBD	Replacement (Substitution)
173	Power Supply Equipment	Low Voltage Power-Distribution-System	Uninterruptible power-supply-system (UPS)	0	Sanyo-Denki	LHM38-12	It is judged this item is not urgent.
174	Power Supply Equipment	Low Voltage Power-Distribution-System	Spare unit for UPS (AMA750T3)	0	Sanyo-Denki	PRS-3487C	This item is already discontinued.
175	Power Supply Equipment	Low Voltage Power Distribution System	AVR	1	Yamabishi	MTS-100SR	Replacement
176	Power Supply Equipment	Low Voltage Power-Distribution-System	Battery for 24V-rectifier	0	Sanyo-Denki	FVL-100-6	It is judged this item is not urgent.
177	Power Supply Equipment	Low Voltage Power Distribution System	Spare unit for UPS (AMA750T3)	1	Sanyo Denki	PRS-3488D	Spare
178	Power Supply Equipment	Power Supply System for Emergency	Parts for 350kVA generator	1	Sanyo Denki	Parts for Generator Board.	Replacement
179	Air Conditioning Equipment	Air Handling Unit Block	Spray nozzle for AHU	6	Daikin Industries	Spray nozzle for AHU	This item should be increased according to survey analysis.
180	Air Conditioning Equipment	Air Handling Unit Block	Filter for AHU	3	Daikin Industries	Filter for AHU	Consumables
181	Air Conditioning Equipment	Air Handling Unit Block	Chilled water pump for AHU	1	Ebara Corporation	32x32FS2G51.5	Replacement
182	Air Conditioning Equipment	Chiller system	Chilled water pump for chiller	1	Ebara Corporation	65x50FS2G53.7	Replacement
183	Air-Conditioning-Equipment	Fan-coil-unit	Fan-coil-unit	0	Daikin Industries	FWHM4AVE	This item is already discontinued.
184	Air-Conditioning-Equipment	Independent-Heat-pump-Type-Air-Conditioner	Heat Pump Air-Conditioner	0	TBD	TBD	Replacement
185	Air-Conditioning-Equipment	Hot-Water-Heater-System	Hot-water-heating-Plate	0	TBD	TBD	Replacement
186	Air Conditioning Equipment	Hot Water Heater System	Photo cell for Sectional boiler	1	MAEDA TEKKOSHO	AFD100+R4424D	Replacement (Substitution)
187	Maintenance		super bond	10	TBD	TBD	Consumables
188	Maintenance		Contact cleaner	10	TBD	TBD	Consumables



Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Studio)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
1-50	Lighting Equipment	Lighting Equipment	Lamp for Production Studio	1	MARUMO	--	No more spare lamp	RTA requests spares as follows; Lamp (JP220V-1000W C/G): 50 pcs Lamp (JP220V-2000W C/G): 20 pcs Lamp manufacturer : FUJI
1-57	Lighting Equipment	Lighting Equipment	Lamp for News Studio	1	MARUMO	--	No more spare lamp	RTA requests spare lamps; Halogen Lamp (J22V-300W): 50 pcs Halogen Lamp (J22V-500W): 100 pcs Lamp manufacturer : USHIO
2-4	Equipment for Master Control Room	Video Equipment	Character generator	1	INSCRIBER Japan	CG SUPREME	Failed	
2-15 to 2-17	Equipment for Master Control Room	Video Equipment	2X1 V/A Switcher	3	NEC	*****	Some Push switches are degraded.	RTA requests ten pieces of spare push switch.
2-19 to 2-46	Equipment for Master Control Room	Video Equipment	Digital video distribution amplifier	28	GVG Japan	8941	No more spare amplifier No more spare fan	RTA requests six units of spare amplifier (8941). RTA requests three units of spare fan (MECHATRONICS F6025E24B2 DC24 V 0.125A).
2-47 to 2-50	Equipment for Master Control Room	Video Equipment	A/D Converter with FS	4	GVG Japan	8960DEC, 8900FSS	No more spare converter	RTA requests six units of spare converter (8960DEC) without FS.
2-51	Equipment for Master Control Room	Video Equipment	D/A Converter	1	GVG Japan	8960ENC	Failed	
2-52	Equipment for Master Control Room	Video Equipment	D/A Converter	1	GVG Japan	8960ENC	Failed	
2-54	Equipment for Master Control Room	Video Equipment	Analog video distribution amplifier	1	NEC	TAD-201	Failed	RTA requests four units of spare converter.
2-62 to 2-87	Equipment for Master Control Room	Audio Equipment	Digital audio distribution amplifier	26	NEC	ADU-145	Four amplifiers are failed.	RTA requests four units of spare amplifier.
2-96	Equipment for Master Control Room	Audio Equipment	Stereo cassette recorder	1	TASCAM	122MKIII	Mechanical part are failed.	RTA requests one set of spare mechanical parts.
2-97 to 2-104	Equipment for Master Control Room	Audio Equipment	A/D Converter	8	NEC	ADU-115	Two converters are failed.	RTA requests two units of spare converter.
2-105 to 2-110	Equipment for Master Control Room	Audio Equipment	D/A Converter	6	NEC	ADU-134	Two converters are failed.	RTA requests two units of spare converter.

A-7-1

Attachment-7 List of Follow-up Cooperation Study Results

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Studio)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-115	Equipment for Master Control Room	Monitoring Equipment	Digital waveform monitor	1	TEKTRONIX Japan	WFM-601A		RTA requests a training for this equipment.
2-116	Equipment for Master Control Room	Monitoring Equipment	Digital audio monitor	1	TEKTRONIX Japan	764		RTA requests a training for this equipment.
2-117 to 2-119	Equipment for Master Control Room	Monitoring Equipment	9inch Color monitor	1	SONY	PVM-9L2	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-120 to 2-134	Equipment for Master Control Room	Monitoring Equipment	14inch Color monitor	15	SONY	PVM-14L4	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-135	Equipment for Master Control Room	Monitoring Equipment	20inch Color monitor	1	SONY	PVM-20L4	Degraded.	RTA requests multi-screen or digital flat monitor with digital input.
2-136	Equipment for Master Control Room	Monitoring Equipment	20inch Air monitor	1	SONY	KV-XA21M8J	Degraded.	RTA requests multi-screen or digital flat monitor with digital input.
2-140	Equipment for Master Control Room	Sync Signal Generator	Sync signal generator system	1	TEKTRONIX Japan	TG700	Display is degraded, no indication appeared.	RTA requests one unit of spare LCD module (119-B053 LCD MODULE:LCD W/CONN).
2-141	Equipment for Master Control Room	Intercom System	Intercom system	1	RTS Japan	ZEUS	Two units of RTS MKP-12 and one unit of RTS WKP-4 are failed.	
2-156	Equipment for Master Control Room	Other Equipment	Clock system	1	LEITCH Japan	CSD-3901	Entire system does not operate properly.	
2-157	Equipment for Production Studio	Video Equipment	Studio color camera system 16X Lens, pedestal	1	SONY	BVP-E10P	TRIAx cable (20m) is damaged.	
2-158	Equipment for Production Studio	Video Equipment	Studio color camera system 16X Lens, pedestal	1	SONY	BVP-E10P	Focus Demand Bracket is broken. CLAMPER CR-10 CANON: 1 set Pedestal is failed. PEDESTAL Type TP-64 SHOTOKU Corp.: 1 set	RTS request one prompter with camera.
2-159	Equipment for Production Studio	Video Equipment	Studio color camera system 16X Lens, crane	1	SONY	BVP-E10P		RTS request one prompter with camera.
2-160	Equipment for Production Studio	Video Equipment	Digital video switcher for Production studio	1	SONY	DVS-2000C		under repair in Dubai
2-178	Equipment for Production Studio	Audio Equipment	Stereo cassette recorder	1	TASCAM	122MKIII	Mechanical part are failed.	RTA requests one set of spare mechanical parts.
2-180 to 2-183	Equipment for Production Studio	Audio Equipment	Condenser microphone	4	SONY	C-38B	All microphones are degraded or damaged.	

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Studio)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-184 to 2-187	Equipment for Production Studio	Audio Equipment	Dynamic microphone	4	SONY	F-780	Two microphones are failed.	
2-188 to 2-190	Equipment for Production Studio	Audio Equipment	Lavalier microphone	3	SONY	ECM-44B	All microphones are degraded or damaged.	
2-212	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor	1	SONY	PVM-9L2	Degraded	RTA requests multi-screen or digital flat monitor with digital input.
2-213	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor Rack mount	1	SONY	PVM-9L2	Degraded	RTA requests multi-screen or digital flat monitor with digital input.
2-214	Equipment for Production Studio	Monitoring Equipment	9inch Color monitor Rack mount, Attachment	1	SONY	PVM-9L2	Degraded	RTA requests multi-screen or digital flat monitor with digital input.
2-215 to 2-222	Equipment for Production Studio	Monitoring Equipment	14inch Color monitor	8	SONY	PVM-14L4	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-223 to 2-225	Equipment for Production Studio	Monitoring Equipment	20inch Color monitor	3	SONY	PVM-20L4	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-229	Equipment for Production Studio	Monitoring Equipment	Control room monitor speaker	1	FOSTEX	NF-1	Two speakers are failed.	
2-235 to 2-236	Equipment for Production Studio	Monitoring Equipment	Stereo headphone	2	SONY	MDR-CD2000	All headphones are failed or damaged.	
2-237 to 2-241	Equipment for Production Studio	Monitoring Equipment	Earphone	5	SONY	MDR-EX17MM	All earphones are failed or damaged.	
2-243	Equipment for Production Studio	Sync Signal Generator	Sync signal generator system	1	TEKTRONIX Japan	TG700 op.88	Display is degraded, no indication appeared.	RTA requests one unit of spare LCD module (119-B053 LCD MODULE:LCD W/CONN).
2-259 to 2-260	Equipment for News Studio	Video Equipment	Studio color camera system 12X Lens, Dolly	2	SONY	BVP-E10P	One focus motor drive mechanism of Canon lens is malfunction.	
2-261	Equipment for News Studio	Video Equipment	Studio color camera system W/P I6X Lens, Prompter	1	SONY	BVP-E10P	Prompter is degraded, mal function. Model : WGS-12 Maker : AUTOSCRIP Serial NO. : C2205	RTA also requests to replace prompter camera.
2-262	Equipment for News Studio	Video Equipment	Digital video switcher for News studio	1	SONY	DFS-700AP	Push switches are failed.	RTA requests four pieces of spare push switch for "Primary cross-point bus section" on Control Panel.

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Studio)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-266	Equipment for News Studio	Video Equipment	Character generator	1	INSCRIBER Japan	CG-FX	Some times does not work properly.	
2-268	Equipment for News Studio	Video Equipment	Interface unit for News studio	1	SONY	PFV-L10/PAC	No more spares.	RTA requests following spares; BKPF-L753A: 1 unit BKPF-L703A: 1 unit BKPF-L653: 1 unit BKPF-L642: 1 unit BKPF-L641: 1 unit BKPF-L613C: 1 unit BKPF-L612: 1 unit BKPF-L603: 1 unit
2-281 to 2-282	Equipment for News Studio	Audio Equipment	Condenser microphone	2	SONY	C-38B	All microphones are degraded or damaged.	
2-283 to 2-284	Equipment for News Studio	Audio Equipment	Dynamic microphone	2	SONY	F-780	All microphones are degraded or damaged.	
2-285 to 2-286	Equipment for News Studio	Audio Equipment	Lavalier microphone	2	SONY	ECM-44B	All microphones are degraded or damaged.	
2-306 to 2-315	Equipment for News Studio	Monitoring Equipment	14inch Color monitor	10	SONY	PVM-14L4	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-316 to 2-318	Equipment for News Studio	Monitoring Equipment	20inch Color monitor	3	SONY	PVM-20L4	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-319	Equipment for News Studio	Monitoring Equipment	29inch Floor Color monitor with stand	1	SONY	KV-AR29M86	Degraded	RTA requests multi-screen or digital flat monitor with digital input.
2-320	Equipment for News Studio	Monitoring Equipment	Control room monitor speaker	1	FOSTEX	NF-1	One speaker (R) is failed.	
2-326 to 2-328	Equipment for News Studio	Monitoring Equipment	Stereo headphone	3	SONY	MDR-CD2000	All headphones are failed or damaged.	
2-329 to 2-333	Equipment for News Studio	Monitoring Equipment	Earphone	5	SONY	MDR-EX17MM	All earphones are failed or damaged.	
2-336	Equipment for News Studio	Sync Signal Generator	Sync signal generator system	1	TEKTRONIX Japan	TG700 op.88	Display is degraded, no indication appeared.	RTA requests one unit of spare LCD module (119-B053 LCD MODULE:LCD W/CONN).

T-7-V

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Studio)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-374 to 2-377	Equipment for Editing System (1:1 Editing System)	Monitoring Equipment	Stereo headphone	4	SONY	MDR-CD2000	All headphones are failed or damaged.	
2-390	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video switcher for A/B Roll editing system	1	SONY	DVS-2000C	Some switches are degraded. Indication of some switches are not readable.	RTA requests one set of spare switches for "Primary Buses" and "Transition Control Area" on Control Panel.
2-392	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Digital video effector for A/B Roll editing system	1	SONY	DME-3000/PAC		RTA request new version software. Operation Software and Manuals (BZDM-3020)
2-394	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Editing control unit for A/B Roll editing system	1	SONY	BVE-2000	Failed	
2-402 to 2-403	Equipment for Editing System (A/B Roll Editing)	Video Equipment	Character generator	2	INSCRIBER Japan	CG-FX	All Character Generators are failed.	
2-409	Equipment for Editing System (A/B Roll Editing)	Audio Equipment	Digital audio mixer for A/B Roll editing system	1	YAMAHA	O3D		RTA requests ten pieces of spare faders.
2-426 to 2-429	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	9inch Color monitor	4	SONY	BVM-9045D	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-430 to 2-435	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	9inch Color monitor	6	SONY	PVM-9L2	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-437	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	14-inch Color monitor SDI Input	2	SONY	PVM-14L4	All monitors are degraded or malfunction.	RTA requests multi-screen or digital flat monitor with digital input.
2-441	Equipment for Editing System (A/B Roll Editing)	Monitoring Equipment	Stereo headphone	1	SONY	MDR-CD2000	Failed	
2-443	Equipment for Editing System (A/B Roll Editing)	Sync Signal Generator	Sync signal generator system	1	TEKTRONIX Japan	TG700 op.88	Display is degraded, no indication appeared.	RTA requests one unit of spare LCD module (119-B053 LCD MODULE:LCD W/CONN).
2-465	Equipment for Editing System (Announce Studio)	Video Equipment	Character generator	1	INSCRIBER Japan	CG-FX	Failed	
2-478	Equipment for Editing System (Announce Studio)	Audio Equipment	Condenser microphone	1	SONY	C-38B	Failed	
2-479	Equipment for Editing System (Announce Studio)	Audio Equipment	Dynamic microphone	1	SONY	F-780	Failed	
2-480	Equipment for Editing System (Announce Studio)	Audio Equipment	Lavalier microphone	1	SONY	ECM-44B	Failed	

A-7-5

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

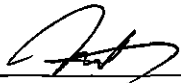
Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Studio)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-496	Equipment for Editing System (Announce Studio)	Monitoring Equipment	29inch Floor color monitor with Stand	1	SONY	KV-AR29M86	Degraded	RTA requests multi-screen or digital flat monitor with digital input.
2-497	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Control room monitor speaker	1	FOSTEX	NF-1	Failed	
2-498	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Studio monitor speaker for Announce studio	1	SONY	SRP-S420	Failed	
2-507 to 2-511	Equipment for Editing System (Announce Studio)	Monitoring Equipment	Earphone	1	SONY	MDR-EXI7MM	All earphones are failed or damaged.	

A-7-6

Date: November 17, 2012

Reported by JICA Study Team



Confirmed by RTA



Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (OB Van and News Car)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-692	OB Van	Video Equipment	Portable color camera for OB Van - 1	1	SONY	BVP-B10P	Camera Focus Controller (CANON) is degraded. Camera Zoom Controller (CANON) is degraded.	RTA requests one set of Camera controller (Focus & Zoom). RTA requests new carrying cases for camera, tripod and dolly. RTA requests one SD Wireless Camera.
2-693	OB Van	Video Equipment	Portable color camera for OB Van - 2	1	SONY	BVP-B10P	Camera body was damaged by bullet. Camera Focus Controller (CANON) is degraded. Camera Zoom Controller (CANON) is degraded.	RTA requests one set of Camera controller (Focus & Zoom). RTA requests new carrying cases for camera, tripod and dolly.
2-694	OB Van	Video Equipment	Portable color camera for OB Van - 3	1	SONY	BVP-B10P	CCU Unit failed DM (DM-94 1-653-238-15) Camera Focus Controller (CANON) is degraded. Camera Zoom Controller (CANON) is degraded.	RTA requests new DM unit. RTA requests one set of Camera controller (Focus & Zoom). RTA requests new carrying cases for camera, tripod and dolly.
2-697	OB Van	Video Equipment	Digital video recorder TBC Remote - 1	1	SONY	DVW-A500P	Some times does not work properly.	RTA requests repair and overhaul in Dubai.
2-698	OB Van	Video Equipment	Digital video recorder TBC Remote - 2	1	SONY	DVW-A500P	Failed	RTA requests repair and overhaul in Dubai.
2-699	OB Van	Video Equipment	Digital video recorder TBC Remote - 3	1	SONY	DVW-A500P	Repaired by RTA. Some times does not work properly.	RTA requests repair and overhaul in Dubai.
2-700	OB Van	Video Equipment	Character Generator	1	INSCRIBER Japan	CGS/600	Failed (Arabic version)	RTA requests new system with Dari language or Persian language.
2-704	OB Van	Audio Equipment	Audio mixer for OB Van	1	SONY	SRP-V200	Some faders are degraded.	RTA requests five pieces of spare faders. RTA requests 20 IN/4 OUT new mixer for their desired operation scheme. However, the console space is limited. RTA is requested to propose their preferred mixer type/model to suite their operation requirement.
2-709	OB Van	Audio Equipment	Dynamic microphone	1	SONY	F-780	Broken, disposed	
2-778	OB Van	Monitoring Equipment	Stereo headphone	2	SONY	MDR-CD2000	All headphones are degraded.	

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (OB Van and News Car)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-784	OB Van	Microwave Link	Microwave link system	1	NEC	ML-B00	Equipment operates only one hour period.	RTA requests repairer or replacement.
2-788	OB Van	Vehicle	Modification for OB Van	1		SONY	Cables are degraded or damaged.	RTA requests followings: TRIAX Cable with connectors 100m x 3 sets Audio Multi Cable with connectors 50 to 100 m x 3 sets
2-797	News Car	Video Equipment	Portable digital video recorder	1	SONY	DVW-250P	Degraded	RTA requests SD Memory Camera instead of Portable Recorder.
2-798	News Car	Video Equipment	Portable digital video recorder	1	SONY	DVW-250P	Failed	RTA requests SD Memory Camera instead of Portable Recorder.
2-799	News Car	Video Equipment	Portable digital video recorder	1	SONY	DVW-250P	Failed	RTA requests SD Memory Camera instead of Portable Recorder.
2-802	News Car	Video Equipment	9inch Color monitor Rack mount	1	SONY	PVM-9L2	Degraded	
2-805	News Car	Video Equipment	Air monitor for News CAR	1	SONY	PVM-9L2	Degraded	
2-806	News Car	Video Equipment	Audio monitor speaker W/U meter	1	SONY	*****	Failed	
2-810	News Car	VHF Communication System	VHF Communication system for News CAR - 2	1	VERTEX Japan	*****	Failed	

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Date: November 17, 2012

Reported by JICA Study Team



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Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (ENG)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-537	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P		RTA requests overhaul in Dubai.
2-538	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P	Camera body was damaged by bullet.	RTA requests overhaul in Dubai.
2-539	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P		RTA requests overhaul in Dubai.
2-540	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P		RTA requests overhaul in Dubai.
2-541	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P		RTA requests overhaul in Dubai.
2-542	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P	Some times does not work properly.	RTA requests repair and overhaul in Dubai.
2-543	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P	Failed	RTA requests repair and overhaul in Dubai.
2-544	ENG	Video Equipment	Camcorder	1	SONY	DVW-707P	Repaired by RTA. Some times does not work properly.	RTA requests repair and overhaul in Dubai.
2-545	ENG	Audio Equipment	Compact mixer	1	SIGMA	KS-342	Failed	
2-552	ENG	Audio Equipment	Compact mixer	1	SIGMA	KS-342	Damaged	
2-572	ENG	Audio Equipment	Lavalier microphone	1	SONY	ECM-77B	Failed	
2-573 to 2-580	ENG	Audio Equipment	Gun microphone	8	audio-technica	AT4073a	All Gun microphones are degraded or damaged.	
2-581 to 2-588	ENG	Audio Equipment	Hand grip	8	audio-technica	AT8408	All Hand grips are degraded or damaged.	
2-589 to 2-596	ENG	Audio Equipment	Windshield	8	audio-technica	AT8105SS	All Windshield are degraded or damaged.	
2-597 to 2-604	ENG	Audio Equipment	Carrying case for Gun Mic	8	SONY	*****	All Carrying case for Gun Mic. are degraded or damaged.	

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (ENG)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
2-605 to 2-607	ENG	Audio Equipment	Fish pole	3	TAKASAGO	HB-3K	All Fish poles are degraded or damaged.	
2-608 to 2-615	ENG	Audio Equipment	Microphone cable 1.5M	8	CANARE	EC015	All Microphone cables are degraded or damaged.	
2-616 to 2-623	ENG	Audio Equipment	Microphone cable 3M	8	CANARE	EC03	All Microphone cables are degraded or damaged.	
2-624 to 2-639	ENG	Audio Equipment	Microphone cable 5M	16	CANARE	EC05	All Microphone cables are degraded or damaged.	
2-640 to 2-655	ENG	Audio Equipment	Microphone cable 10M	16	CANARE	EC10	All Microphone cables are degraded or damaged.	
2-658	ENG	Audio Equipment	UHF Synthesized transmitter	1	SONY	WRT-8B	Failed	
2-672 to 2-679	ENG	Monitoring Equipment	Stereo headphone	8	SONY	MDR-CD2000	All Stereo headphones are degraded or damaged.	
2-680 to 2-687	ENG	Lighting Equipment	Battery light set	8	TOSHIBA LIGHTECL	LB-5II SET	All Battery of light sets degraded or damaged.	
2-688 to 2-690	ENG	Lighting Equipment	Lighting kit	3	TOSHIBA	UK-30A		RTA requests spare lamps. 220V 650W: 200 pcs for TOSHIBA UNIFOCUS 650

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Date: November 17, 2012

Reported by JICA Study Team

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Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (TV TX Site)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
1-11	Power Supply Equipment	Power Supply System for Emergency	Engine Generator for STL	1	Denyo	DA-5000	Failed	Missing
4-1	TV Transmitting Equipment		All-solid- state 2 kW TV transmitter	1	NEC	PCN-1602SSH/1		RTA requests following spares; HPB-3101: 1 unit HPB-3102: 1 unit HPB-3103: 1 unit HPB-3104: 1 unit HPB-3105: 1 unit HPB-3106: 1 unit HPB-3108: 1 unit HPB-3109: 1 unit V1200GH: 2 units V600GH: 1 unit 56A50VPS: 2 units Air Filter: 4 pcs TDA-201: 1 unit
4-4	TV Transmitting Equipment		PIE (Program input and monitoring equipment)	1	NEC	Special products	Audio Monitor Unit is failed. KONDO AMT-105	
4-15	Measuring Equipment	Potable Type Measuring Devices	RF power meter with power sensor	1	ANRITSU	ML2437A, MA2472B	Power Sensor is failed.	RTA requests two sets of power sensor.
4-23	Monitor Equipment		Color TV receiver with antenna, caster	1	SONY	KV-XA21M8J	Degraded	RTA requests two sets of 32" LED Flat TV.
4-24	Power Supply Equipment		Automatic voltage regulator	1	Seidenkogyo	TAM-20A, 20B		RTA requests one piece of spare unit. Transfer Switch SSK-E603E-3FD
	Power Supply Equipment		Parts of AMF Panel	1	Schneider Electric	DKG-205		RTA requests two pieces of spare parts.
	Power Supply Equipment		75 kVA AVR	1	Powerex	PS-375ex		RTA requests one piece of spare unit. Control Board YC YC-VO-1 94V-0 0430
	Facilities		Water pump	2	TERAL KYOKUTO	MTP40-5.75	Failed	RTA requests two units of water pump.
	Facilities		20kVA UPS	1				RTA requests one 20 kVA UPS to avoid a short time interruption.

Date: November 17, 2012

Reported by JICA Study Team

Confirmed by RTA

Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (TV TX Site)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
	Facilities		Air Conditioner	4	Daikin Industries	RI100LUY1	Failed or degraded	RTA requests to replace with 50000 BTU new air conditioner.

A-7-12

Date: November 17, 2012

Reported by JICA Study Team



Confirmed by RTA



Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (TV Repeater Site)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
4-46 to 4-48	10 W TV Repeater	TV Repeater	10 W TV Repeater	1	NEC	TB-3010CV	Operating normally	

A-7-13

Date: November 17, 2012

Reported by JICA Study Team



Confirmed by RTA



Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Power Supply System)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
1-1	Power Supply Equipment	Low Voltage Power Distribution System	Uninterruptible Power System (UPS)	1	Sanyo Denki	AMA750T3	Batteries are degraded.	RTA requests new batteries: 90 cells LHM38-12 (FURUKAWA) RTA requested following spare units; PRS-3487C: 2 units PRS-3488D: 1 unit
1-2	Power Supply Equipment	Low Voltage Power Distribution System	Automatic Voltage Regulator (AVR)	1	Sanyo Denki	Type SD-3	Failed	
1-3	Power Supply Equipment	Low Voltage Power Distribution System	24V Rectifier and Battery	1	Sanyo Denki	CR124-30L	Batteries are degraded.	RTA requests new batteries: 4 cells FV6-100-6 (FURUKAWA)
1-7	Power Supply Equipment	Power Supply System for Emergency	Diesel Generator	1	Sanyo Denki	SW4-350A	Tentatively repaired	RTA requests one set of spare unit for Generator Board.

A-7-14

Date: November 17, 2012

Reported by JICA Study Team



Confirmed by RTA



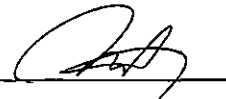
Follow-up Cooperation Study Results on TV Broadcasting Equipment and Facilities (Air Conditioning System)

Ref. No.	Category 1	Category 2	Item	Org. Q'ty	Maker	Model	Description of Status	Remarks
1-12	Air Conditioning Equipment	Air Handling Unit Block No.1	No.1 Air Handling Unit	1	Daikin Industries	AH32EBR		RTS request rolled filter & spray nozzle as spare.
1-16	Air Conditioning Equipment	Air Handling Unit Block No.2	No.2 Air Handling Unit	1	Daikin Industries	AV13EBR		RTS request rolled filter & spray nozzle as spare.
1-18	Air Conditioning Equipment	Air Handling Unit Block No.2	No.2 Chilled Water Pump P5 for No.3 Air Handling Unit	1	Ebara Corporation	32x32FS2G51.5	Failed (Water Leakage)	
1-19	Air Conditioning Equipment	Air Handling Unit Block No.3	No.3 Air Handling Unit	1	Daikin Industries	AV21EBR		RTS request rolled filter & spray nozzle as spare.
1-23	Air Conditioning Equipment	Chiller system	Chilled Water Pump for Chiller P1	1	Ebara Corporation	65x50FS2G53.7	Failed (Water Leakage)	
1-30	Air Conditioning Equipment	Fan Coil Unit	Fan Coil Unit (Ceiling Type) - 1	1	Daikin Industries	FWHM4AVE	Failed	
1-33 to 1-44 plus 1	Air Conditioning Equipment	Independent Heat pump Type Air Conditioner	Heat Pump Air Conditioner	13	Daikin Industries	FTXD/RXD71JVEA/ FTXD/RXD50JVEA9	Failed or Degraded	
	Air Conditioning Equipment	Hot Water Heater System	Hot water heating Plate	30	PS	Dimension: 495(H)x1846(L)x96(D)	Hot water leakage	
	Air Conditioning Equipment	Hot Water Heater System	Sectional Boiler		MAEDA TEKKOSHO	RK-N315WA-430-H	Photocell is failed.	

A-7-15

Date: November 17, 2012

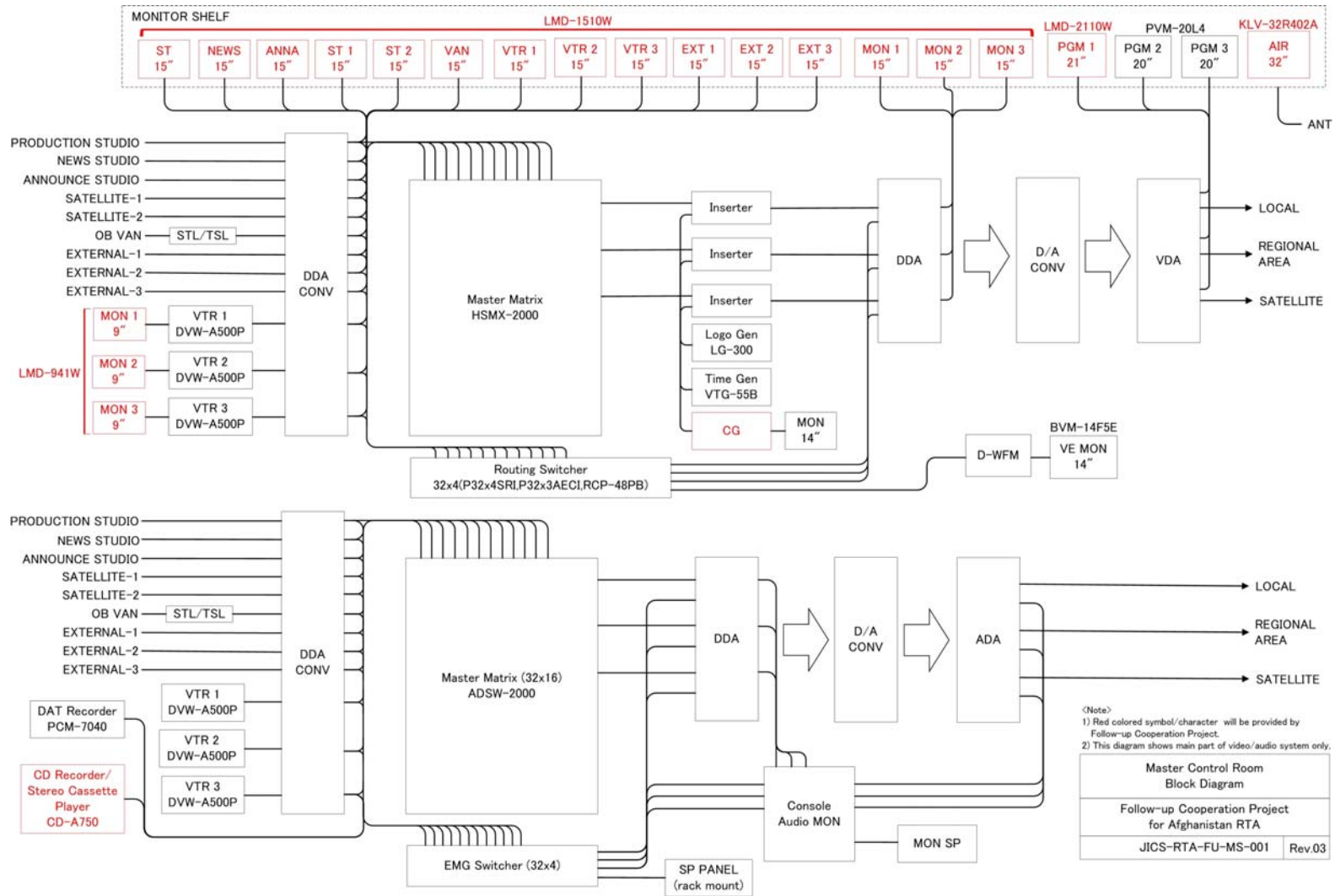
Reported by JICA Study Team



Confirmed by RTA

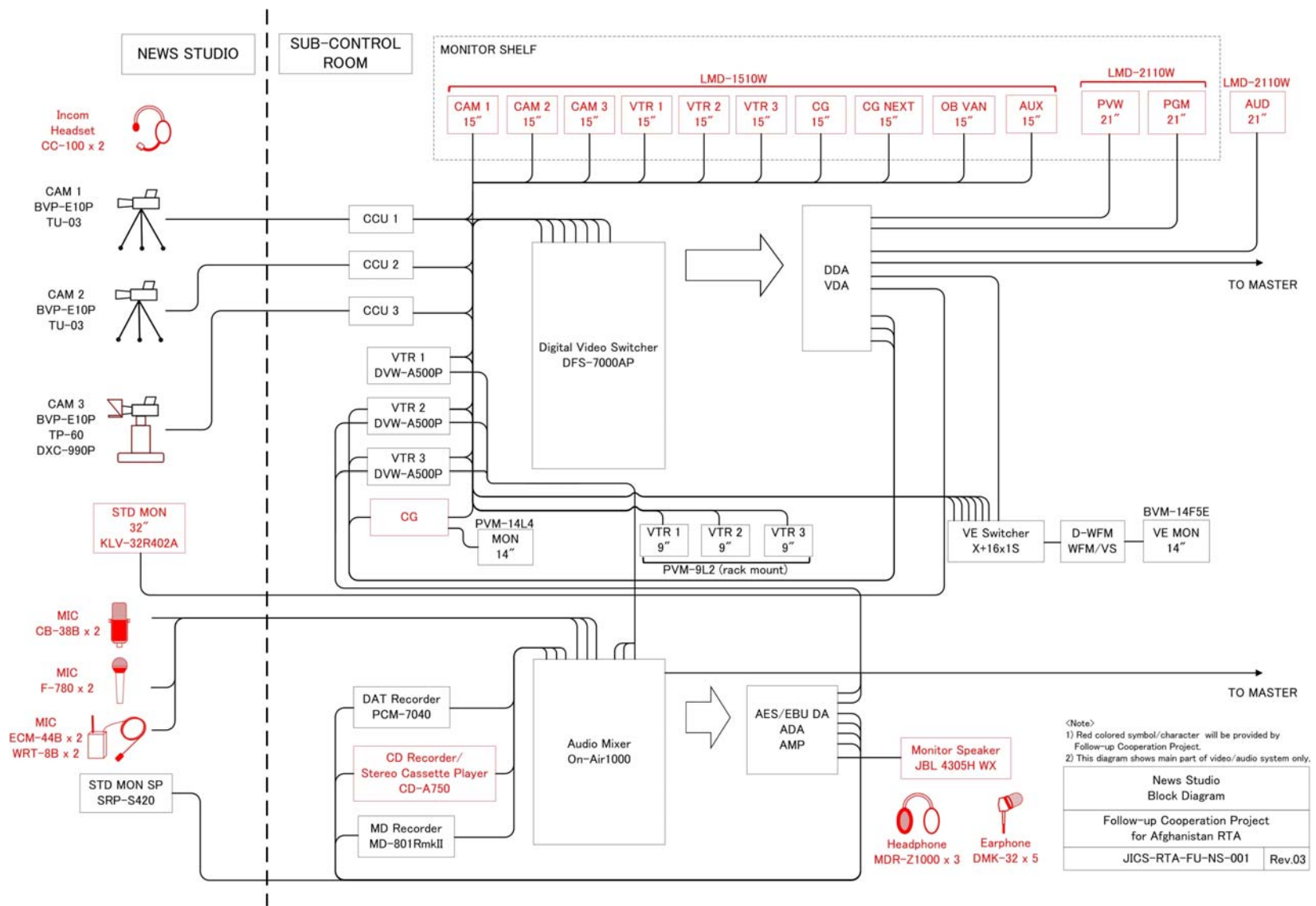


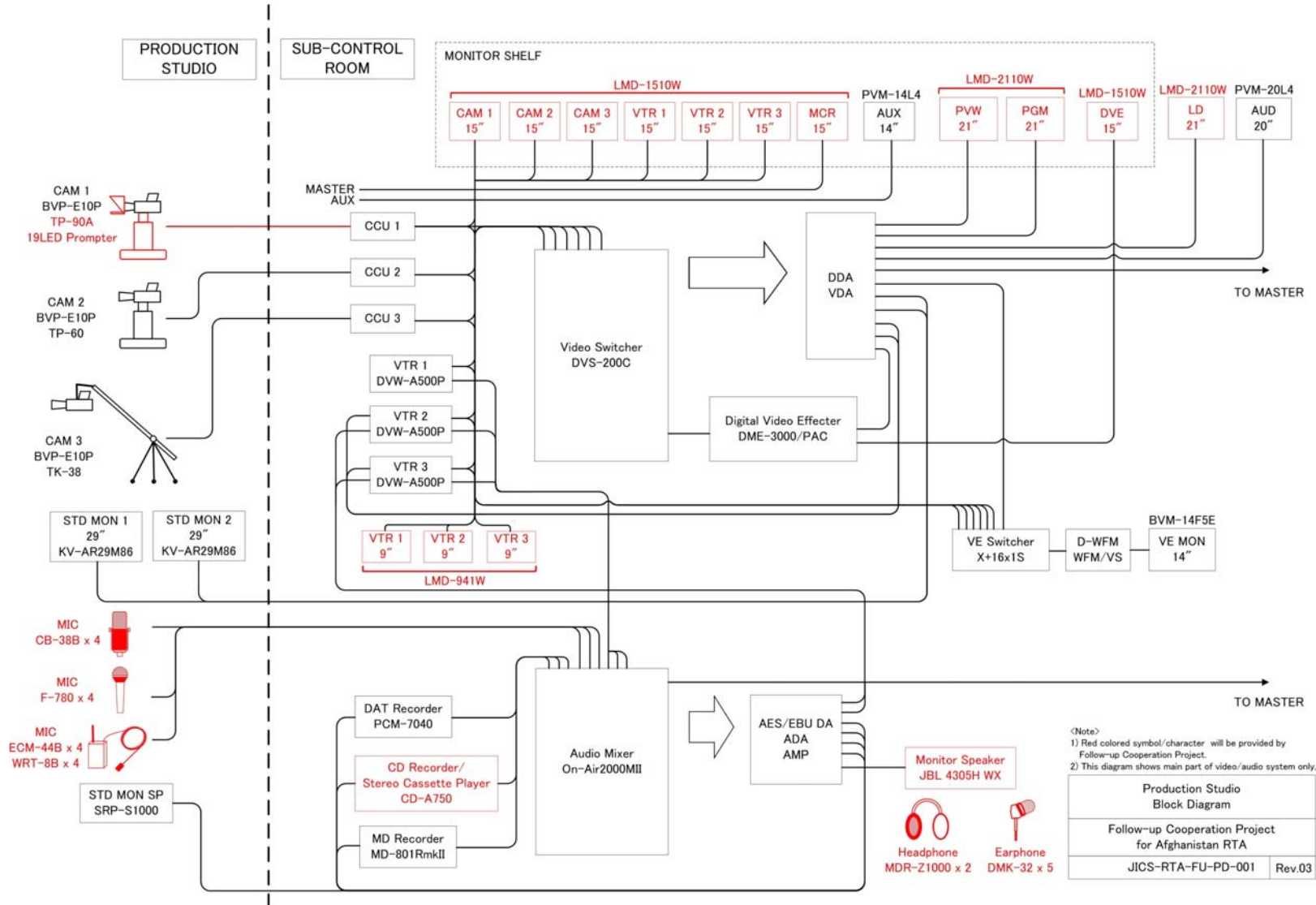
Attachment-8 Proposed System Diagram after Completion of Follow-up Cooperation

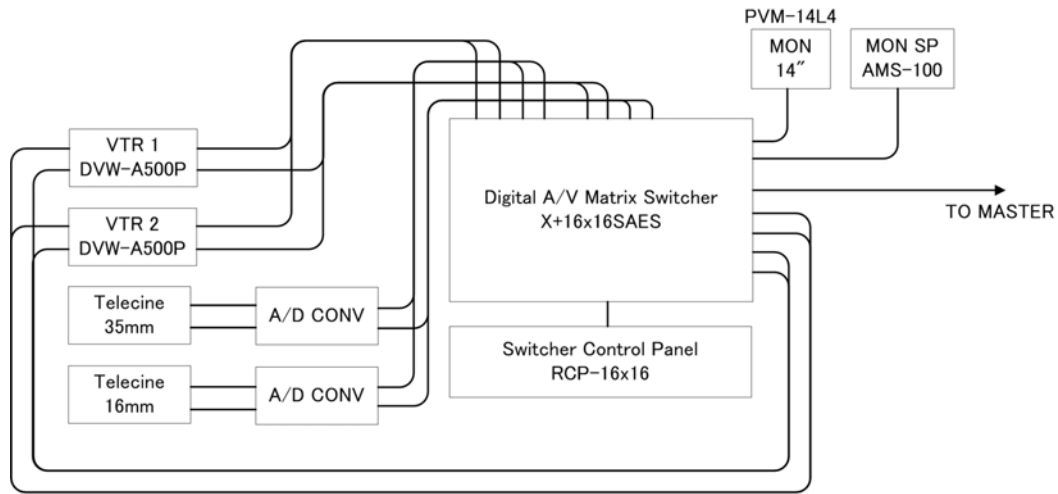


I-8-V

A-8-2





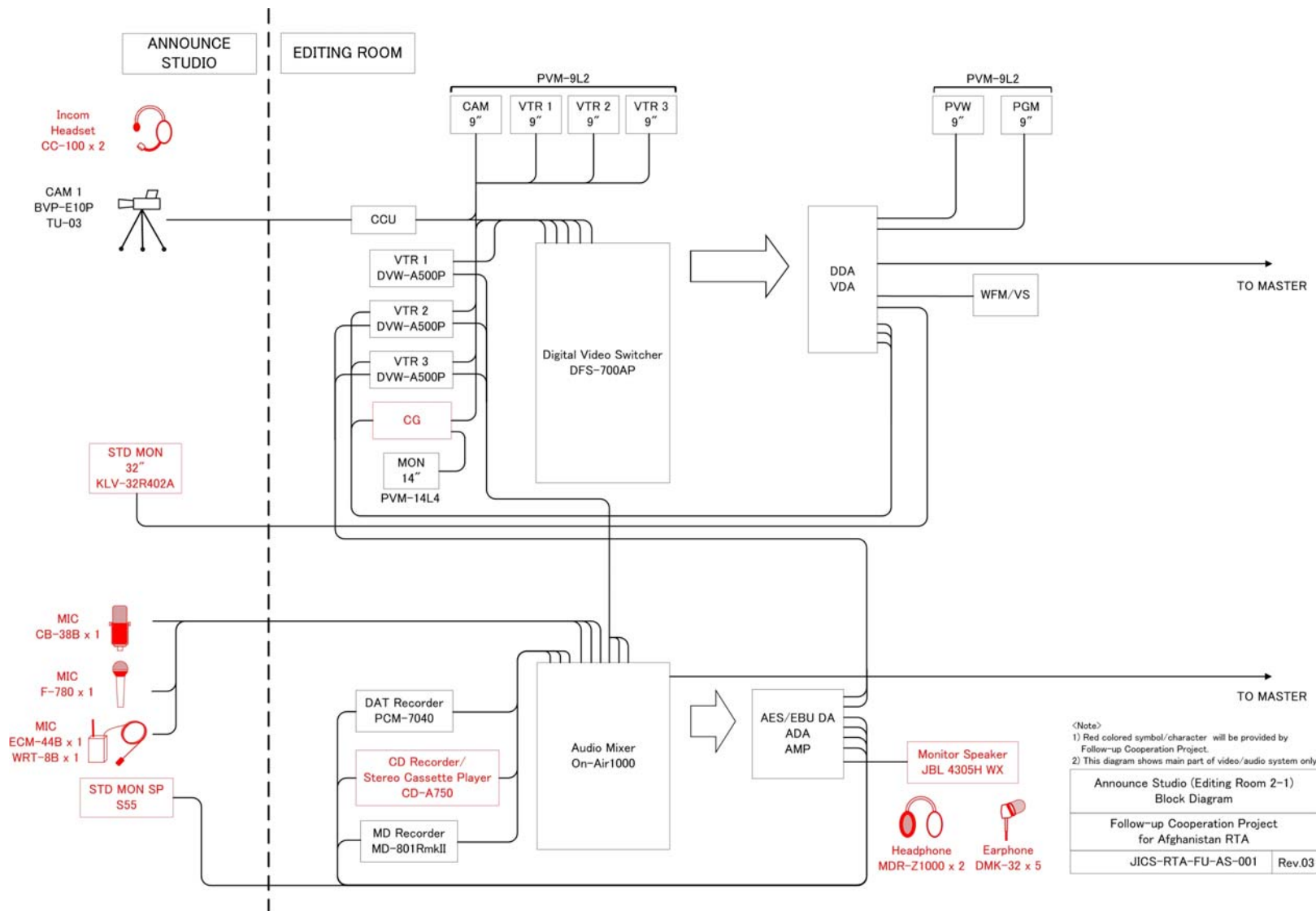


<Note>

- 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
- 2) This diagram shows main part of video/audio system only.

Telecine System Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-TS-001	Rev.03

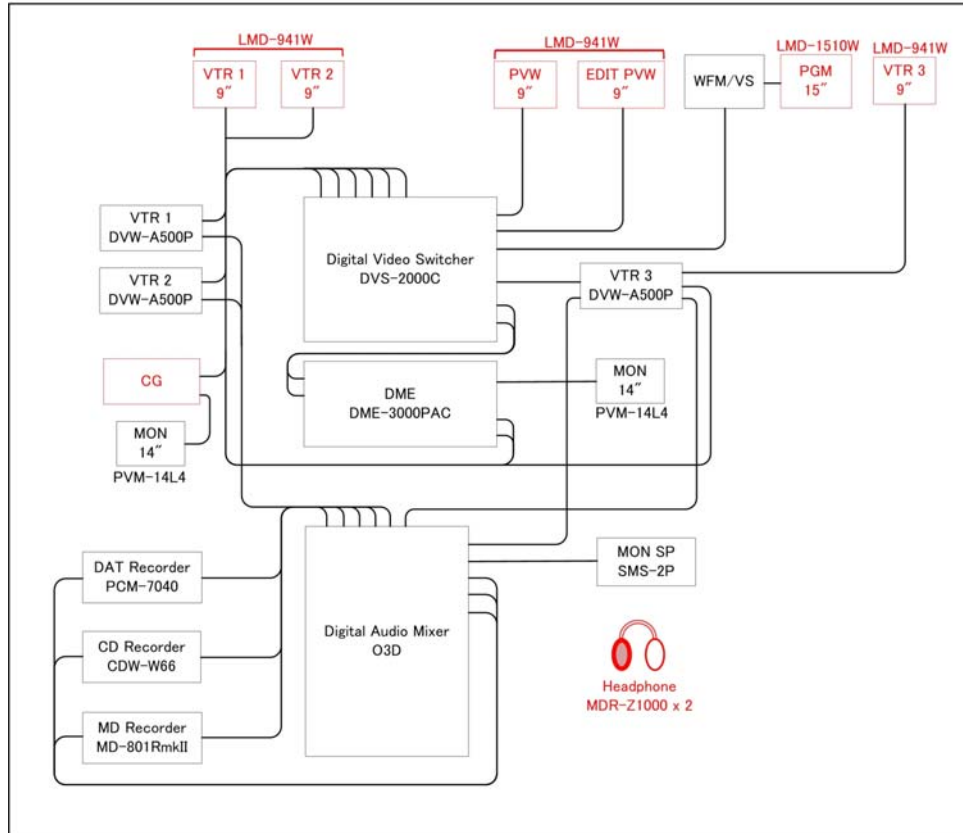
A-8-5



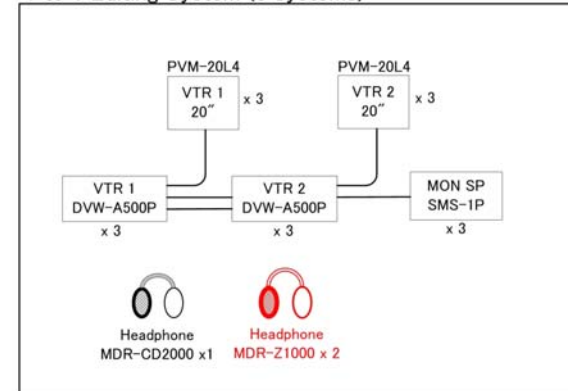
<Note>
 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 2) This diagram shows main part of video/audio system only.

Announce Studio (Editing Room 2-1) Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-AS-001	Rev.03

A/B Roll Editing System-1



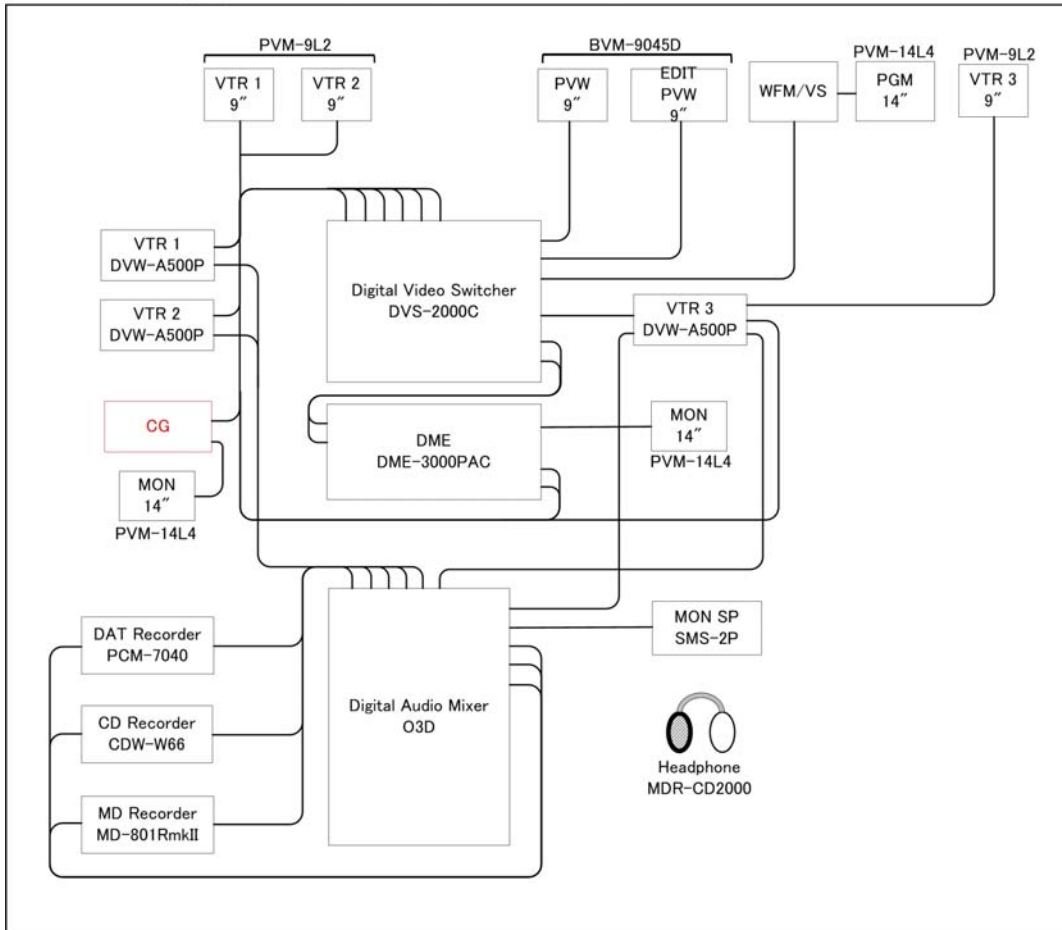
1 to 1 Editing System (3 systems)



- <Note>
 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 2) This diagram shows main part of video/audio system only.

A/B Roll Editing System-1 1 to 1 Editing System Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-AE-001	Rev.03

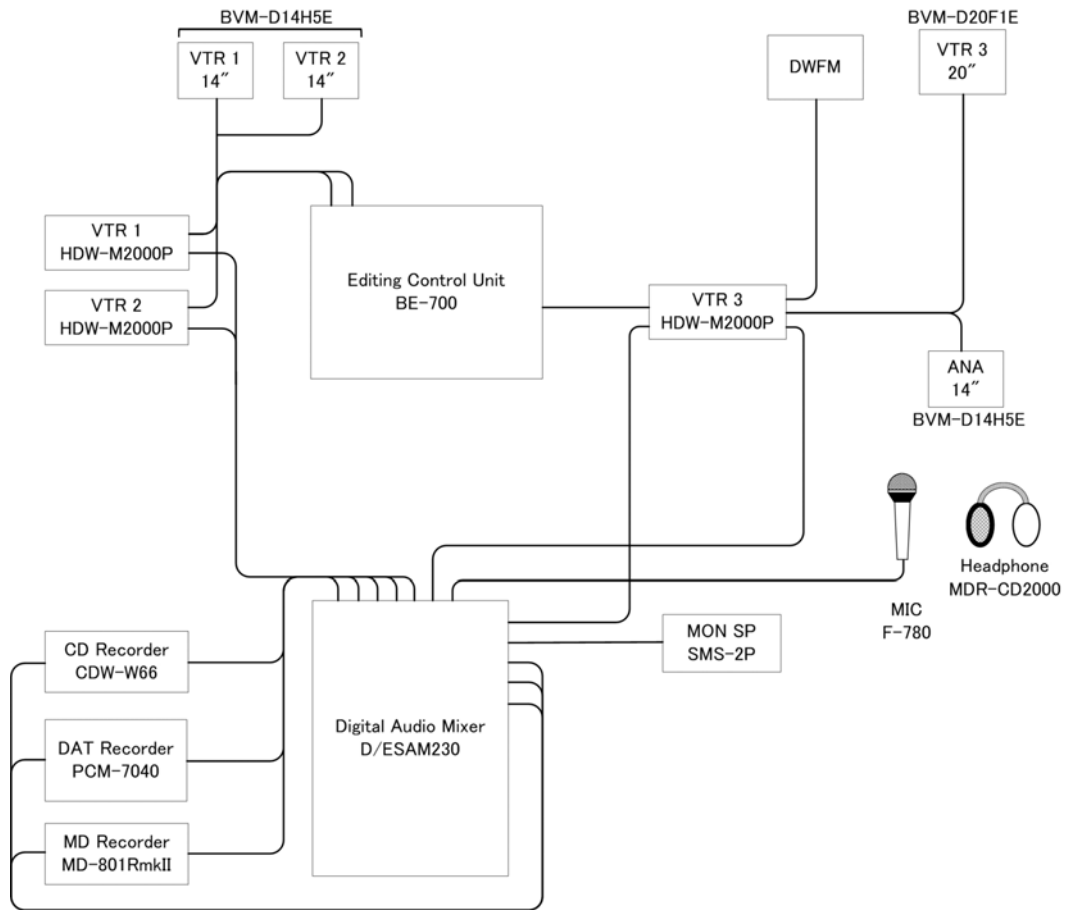
A/B Roll Editing System-2



A-8-7

- <Note>
 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 2) This diagram shows main part of video/audio system only.

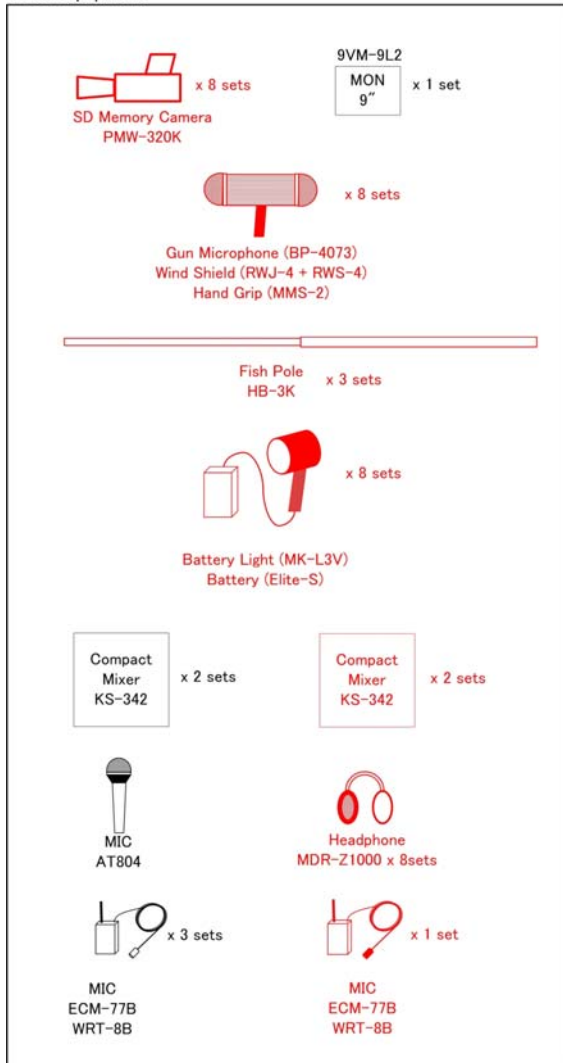
A/B Roll Editing System-2 Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-AE-002	Rev.03



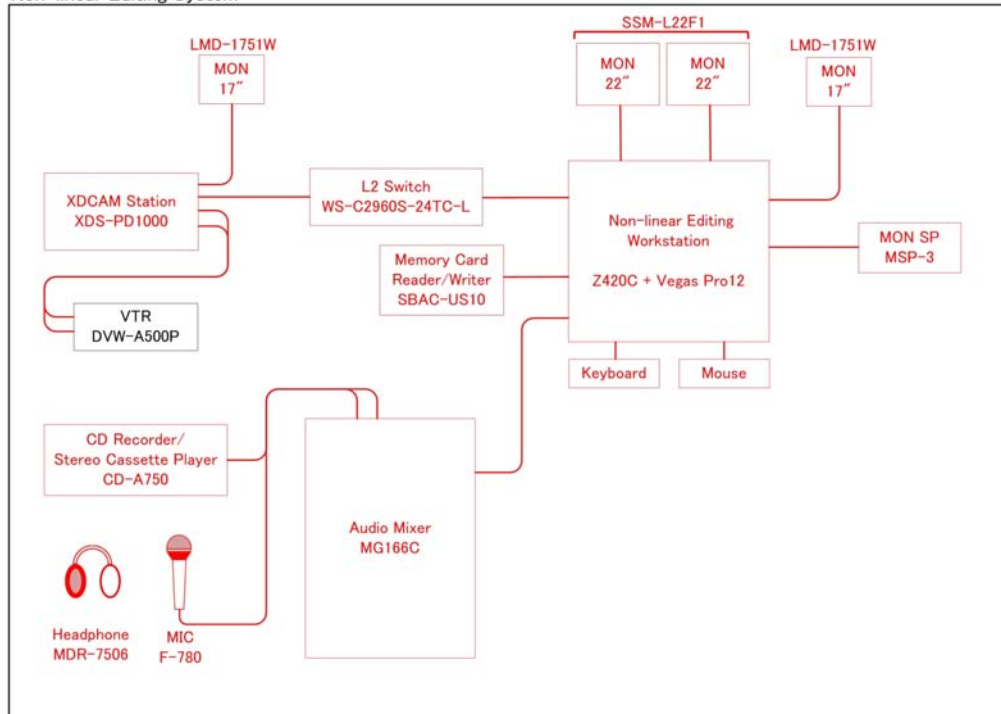
- <Note>
 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 2) This diagram shows main part of video/audio system only.

HD Editing System Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-HE-001	Rev.03

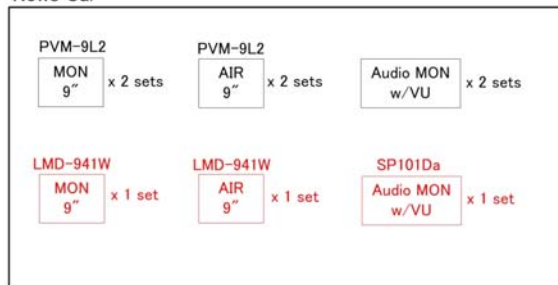
ENG Equipment



Non-linear Editing System



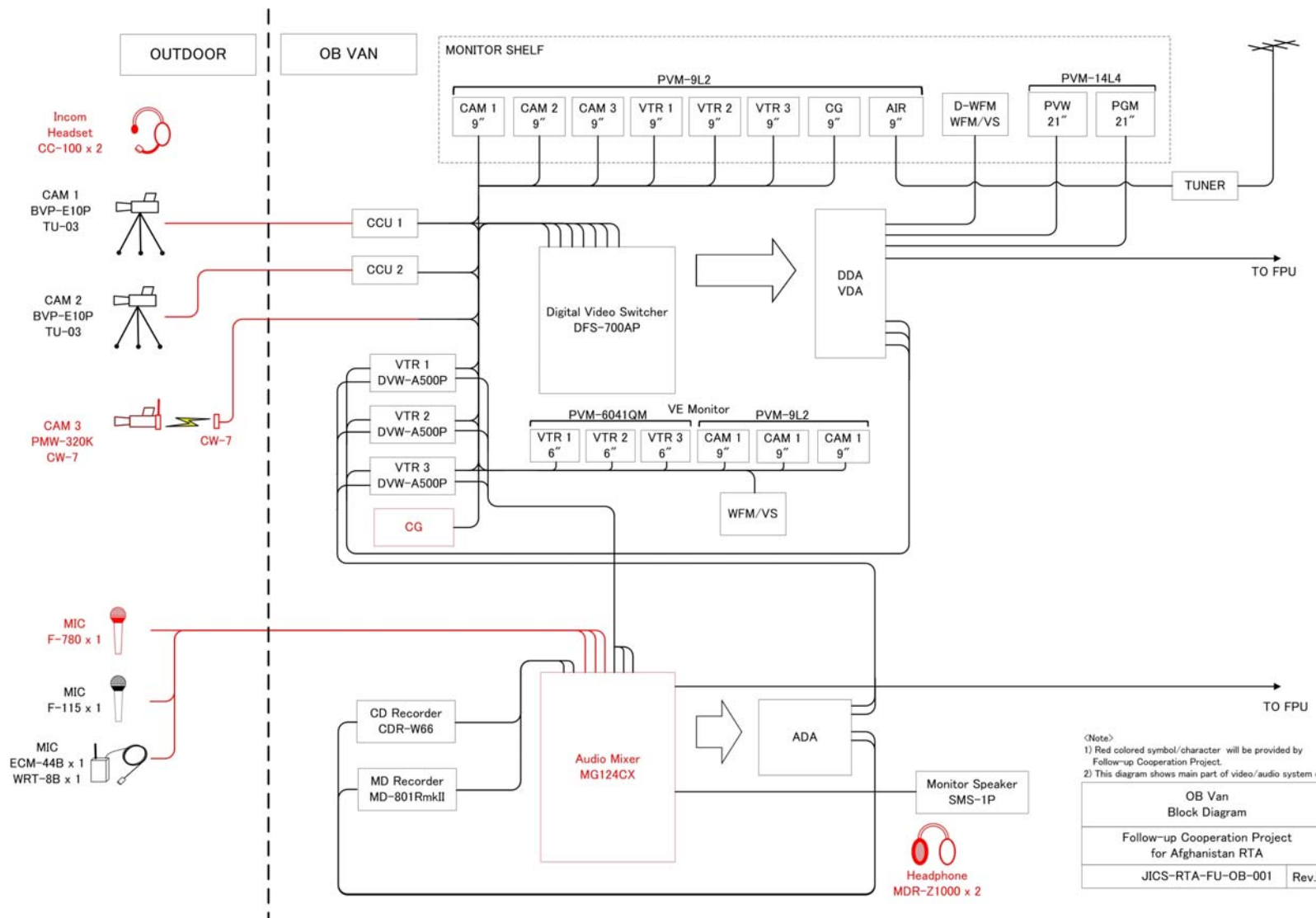
News Car



- <Note>**
 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 2) This diagram shows main part of video/audio system only.

Non-linear Editing System ENG & News Car Block Diagram & Equipment	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-NE-001	Rev.03

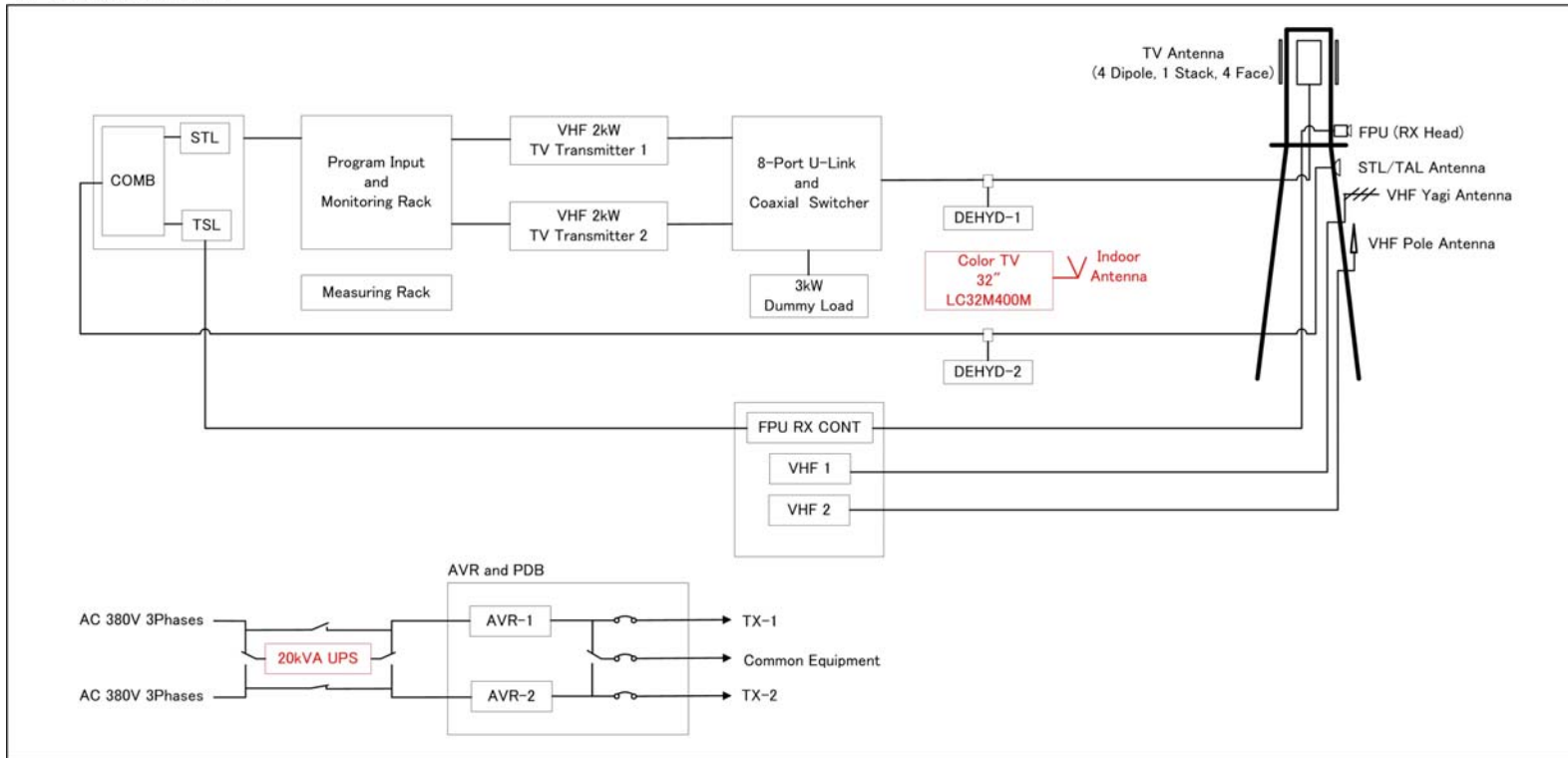
A-8-10



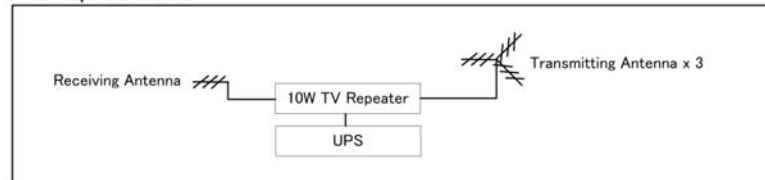
<Note>
 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 2) This diagram shows main part of video/audio system only.

OB Van Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-OB-001	Rev.03

TV Transmission Site



TV Repeater Site



- <Note>
- 1) Red colored symbol/character will be provided by Follow-up Cooperation Project.
 - 2) This diagram shows main part of video/audio system only.

TV Transmission Site TV Repeater Site Block Diagram	
Follow-up Cooperation Project for Afghanistan RTA	
JICS-RTA-FU-TX-001	Rev.03

Attachment-9 Reference/Obtained Material List

- 1) RTA Questionnaire and Answer
- 2) RTA Organization Chart
- 3) Record of assistance by donor country and international organization to RTA
- 4) Weekly Program Plan
- 5) TV Coverage Area in Afghanistan
- 6) List of Kabul City/Province Dead Zone
- 7) Map of Kabul City/Province Dead Zone
- 8) Table of Location of the TV Transmitters in all of Provinces
- 9) List of necessary spare parts equipments of Kabul TV transmission site
- 10) Report from SONY TV OB Van, ENG Cameras and Lighting Equipment
- 11) Application for Tax Exemption