



TERMS OF REFERENCE FOR THE PROCUREMENT OF PRIVATE AUTOMATED BRANCH EXCHANGE (PABX) AND PAGING SYSTEM

Background

The Philippine Science High School is mandated by the government to provide secondary education with emphasis on science and technology with the aim of preparing its students for STEM-related careers. The curriculum was design to equip students with the knowledge, skills, and attitude that are deemed to be essential in preparing for a STEM-related career. This aim is realized when instruction is aided with appropriate supplies and equipment and availability of telephone system and paging system.

I. Rationale

The Information Technology Unit (ITU) of the campus continues its part in the holistic growth of our scholars. Currently, the campus is using only one telephone/facsimile to make phone calls. As it continues its growth, it is very essential to use a stable and fast medium of communication. To respond to this, the campus aims to acquire a PABX phone system that will provide efficient telephone connection not just outside the campus but will be able to connect two office extensions to make internal phone call, and will allow user to transfer caller to a colleague or office. This would be very vital in maximizing productivity, building a strong connection and improving transactions within or outside the organization. Moreover, the campus also aims to acquire Paging System that will allow teachers and administrators to communicate messages to an entire school. As its best medium of communication for urgent and broadcast messages, this is very vital in sending out emergency messages, making daily announcements such as student birthdays, recognizing team achievements, announcing upcoming events and holding flag ceremony.

II. Scope and Specifications

1. Service provider will be responsible for providing and installation of the PABX phone system and Paging system of the PSHS CALABARZON Region Campus.
2. The service provider shall communicate with existing network infrastructure provider for proper integration and maintenance during pre-installation, installation and post-installation.
3. Upon acquisition of trunk services, the service provider of PABX system must communicate with trunk service provider for integration and shall make sure that system will work on local, inbound and outbound calls and once trouble is encountered or needs technical assistance, the presence of the service provider is required.
4. Wires/Cables outside the building shall be covered with PVC Pipes and other needed materials that will assure its protection and requires excavation with depth of 60 cm or 0.6m from ground. This should also be coordinated with the Residence Architect. Neat and safe installation of Wires/Cables beneath molding on the wall surface or building exterior is also required.
5. The appointed bidder will be required to sign a 36 months support and maintenance Service Level Agreement (SLA).



Detailed Scope of Work

Pre-installation

- a.) Submit Work Plan within five (5) calendar days upon receipt of Notice to Proceed.

Installation

- a.) Supply, deliver and install the required components as specified in the Work Plan duly approved by PSHS-CALABARZONRC and with the following Technical Requirements of this TOR.
- b.) Integrate the proposed PABX and Paging System to the existing PSHS CALABARZON network infrastructure. The service provider shall provide the necessary hardware, terminations and other services required to its setup.
- c.) Provide 6ft Data Cabinet for PABX and Paging System. Main Equipment or Controllers of the Paging and PABX System shall be located in the Server Room in the Administrative Building. The 2 microphones are to be installed respectively in CID Chief office and lobby of Administrative Building.
- d.) Provide Patch Panels and network switches for PABX System that will integrate to existing network and will also separate the management of voice from the data network.
- e.) Provide AVR or UPS that will serve as power protection to the PABX System and Paging System.
- f.) Provide all the needed items and personnel services to install all the equipment and wirings. It includes all the needed items such the PVC Pipes, hangers and support, CAT-6 Pure copper cable, wires, Junction box, PVC conduit, Cables, Clamps, Tie wires, and other need items as well as personnel services to protect the wires/cables connecting the equipment. PSHS CALALABARZONRC shall not responsible for the lack of any components/materials. It shall be the sole responsibility of the service provider to assess and re-assess all needed components/materials.
- g.) Perform testing of PABX and Paging System that shall conform with requirements indicated in this TOR.

Post-Installation

- a. Restore damages to property caused by installation, maintenance and/or removal of cabling equipment and other procedures conducted by the contractor to accomplish the project.
- b. Conduct demonstration and free training for personnel of PSHS-CALABARZONRC on the basic operational, maintenance and troubleshooting requirements of PABX System and Paging System for at least 5 days.
- c. Provide at least one (1) copy of the technical manual/documentation (English) in printed hard copy and electronic (soft copy) formats. It should have project documents which includes Cabling and equipment installation, operation, configuration and testing, labelling & designs layouts with location map to be submitted and verify during the testing. It should have proper labelling and proper location mapping to be used in this project.
- d. Render support services to PSHS-CALABARZONRC within the warranty period as follow:
 1. Technical support will be provided through onsite visit within regular working hours from Monday to Friday, 8:00AM to 5:00PM. Once trouble is encountered or needs technical assistance, the presence of the service provider is required. The service provider of PABX shall communicate with trunk service provider during troubleshooting and maintenance.



2. If the supplied equipment is found defective and need to be pulled-out, the service provider shall provide replacement with the same or higher specifications.
 3. Rectify and or/replace any part that fail to pass any test/inspection or make alteration necessary to meet the specification.
 4. Responsible and accountable for any damage caused solely by the service provider or its agent to the PSHS-CALABARZONRC Building as a direct result of the installation maintenance, and removal of any cabling components and devices.
 5. Provision of diagnostic reports and updates in case of connection failure.
- e. If in case PSHS CALABARZON needs to transfer PABX and Paging system connection to a new location, the Provider must transfer the connection to the new location at no cost to PSHS CALABARZON
- f. Provision of upgrades free of charge during the warranty period. Service provider shall be responsible for all the cost related to the warranty period for hardware products.

Qualification Requirements

1. Providers should be a telecommunication company or owner of a network, have the expertise and five (5) year experience in internet service provisioning.
2. Providers must have capacity and ability to provide maintenance services and technical support.
3. Providers should submit copies of Client Satisfactory Certificates from at least three (3) clients each for the last three (3) years for similar contracts. Similar contracts shall refer to PABX Telephone System and Paging System.
4. The provider shall complete the installation of work within Forty-five (45) calendar days from the date of receipt of Notice to Proceed.

Lot 1: Private Automated Branch Exchange (PABX)

Technical Requirements

The telephone system shall be of the IP-PBX (IP- Private Automatic Branch Exchange) Type and should provide clarity in all calls without packet drop. PABX System shall be also compatible and shall work with either CO Lines or Digital or SIP trunks with 9 trunks for regular or local calls and 1 trunk for long distance calls.

| | Particular | Specifications/Requirement | Qty | Unit |
|---|-----------------------|---|-----|-------|
| 1 | PABX | Users: 100 (up to 200) Max Concurrent Calls; 30 (up to 60) Max Analog Ports: 16 Max BRI Ports: 16 Max Cellular Ports: 6 Max E1/T1/J1 Ports: 2 Expand Boards: 2*EX30/EX08+1*D30 External Storage: SD Card | 1 | Unit |
| 2 | Module | 2 FXO Ports | 2 | units |
| 3 | IP Phones for Offices | compact office IP phone with rich features. 2.3" 132x64-pixel graphical LCD with backlight | 42 | units |



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|---|-----------------------|---|---|------|
| | | Dual-port Gigabit Ethernet PoE Support Opus codec support Up to 2 SIP accounts Local 5-way conferencing Support EHS Wireless Headset Unified Firmware Support YDMP/YMCS Stand with 2 adjustable angles Wall mountable | | |
| 4 | IP Phone for Operator | 2.4" 320x240-pixel graphical LCD with backlight Dual-port Gigabit Ethernet PoE Support Opus codec support Up to 4 SIP accounts Local 5-way conferencing Support EHS Wireless Headset Unified Firmware Support YDMP/YMCS Stand with 2 adjustable angles Wall mountable | 1 | unit |
| 5 | Expansion Module | 4.3" 272x480-pixel color screen Color icons for rich visual experience 20 Physical keys on each page with dual-color LEDS Three independent control keys with illuminated LED for fast switching pages Supports up to 3 modules daisy-chain Stand with 2 adjustable angles | 1 | unit |
| 6 | DATA CABINET | 6FT | 1 | set |

Lot 2: Paging System

Technical Requirements

The Paging System's audio shall have the capability to be heard clearly on the entire campus with zones selection and able to play preset background sound/music or any type of audio with clarity.

| | Particular | Specifications/Requirement | Qty | Unit |
|---|---|---|-----|------|
| 1 | DATA CABINET | 6FT | 1 | set |
| 2 | 10 ZONES PAGING CONTROLLER WITH SPEAKER | Includes built-in 10 zone selector and paging selector, which can be expanded to 300 zones. | 1 | set |



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|---|--------------------------|--|---|-----|
| | SELECTOR | <p>Work together with remote paging console for paging and control over 10 zones.</p> <p>Individual zone, group zones, 10 zones and all zones paging through remote paging console.</p> <p>With memory function when power off, it can realize the restoration after electricity is turn on.</p> <p>Includes 2 channels 10 zones amplifier inputs (A channel for BGM amplifier and B channel for paging amplifier), wherein the other zone's music system will not be interrupted when some zone is selected for paging.</p> <p>Includes 10 zone speaker output terminals. Two-color zones status indicators accurately indicate music, paging or alarm status.</p> <p>Includes chime, chime volume and trigger.</p> <p>Zone 1-10 selector, music/paging switch and all zone selector with are equipped with indicators.</p> <p>Mic 1-2 inputs, line 1-2 inputs, audio output. Volume control over Mic 1-2 are included.</p> <p>Includes RJ45 communication ports for paging console or cascade another paging controller.</p> | | |
| 3 | CD/MP3 PLAYER WITH TUNER | <p>Standard cabinet-type CD, MP3 (with USB and SD card interfaces) and radio integrated playback equipment.</p> <p>Provide a combined audio source for the broadcasting system, and manually control the CD, MP3, Bluetooth and radio players.</p> <p>Includes USB interface / SD card slot, CD movement and radio, Bluetooth four audio sources</p> <p>Includes radio that uses a high-sensitivity radio module and the radio frequency memory can be stored up to 99.</p> <p>With infrared remote-control function, and can independently control the volume control.</p> | 1 | set |



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|---|---------------------------|--|----|------|
| | | Includes ports that can be integrated with laptop/PC. | | |
| 4 | PAGING MICROPHONE | A high-performance remote zone paging console that works with zone paging controller for remote paging and control over a multi-zone system. With operation number input keys and LED display. Capacity of manage 30 paging selectors up to 300 zones. Max remote control distance up to 1Km. With microphone volume control. RCA line input and output. Built-in chime and chime volume control. Up to 16 microphone work together with RJ45 port in series connection | 2 | sets |
| 5 | CHANNEL AMPLIFIER | 1000W | 2 | sets |
| 6 | CEILING SPEAKER | 6W | 68 | sets |
| 7 | OUTDOOR PROJECTOR SPEAKER | Includes 100v/70v transformer that reduces line losses on longer distance and allows easy parallel connection of multiple loudspeakers. Waterproof projector type loudspeaker 6" full range speaker unit IP66 waterproof level Power taps 7.5w-15w @100V Aluminum enclosure and metal bracket | 14 | sets |

DUTIES AND RESPONSIBILITIES OF PSHS-CALABARZONRC

- A. Assist prospective bidders during the conduct of site Survey
- B. Review and approve the work plan submitted by Contractor within five (5) working days.
- C. Assist on the communication with existing network infrastructure provider and trunk service provider.
- D. Grant the service provider authorized representative access to its premises and facilities located therein to perform its obligations, provided that such representative shall be accompanied by the duly assigned PSHS-CALABARZONRC personnel.
- E. Reject any unit or any part thereof that fail to pass any test and/or inspection or do not conform to specifications.
- F. Pay the service provider in accordance with condition set in the Payment Scheme.
- G. Issue a Certification of Inspection and Acceptance upon determination by the PSHS - CALABARZONRC Inspectorate Team that the delivered and installed equipment and components are usable and in good working condition.

The above data is for reference only. PSHS-CALABARZONRC does not guarantee that these data are fully correct, up to date, and applicable to the project at hand. The service provider is responsible for the accuracy and applicability of all data, including the above, that it will use in its design and build proposal and services.



III. Approved Budget for Contract

The approved budget for the Purchasing and Installation of PABX System is SEVEN HUNDRED THOUSAND PESOS (P700,000.00) ONLY and for the Purchasing And Installation of Paging System is SEVEN HUNDRED EIGHTY THREE THOUSAND PESOS (P783,000.00) ONLY

IV. Evaluation and Selection of Criteria

The mode of procurement shall be "Competitive Bidding" as per 2016 Revised Implementing Rules and Regulations of RA 9184.

V. Payment Scheme

The delivery and installation shall be 45 days after issuance of Notice to Proceed, payment to be facilitated under government terms.

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