TECHNICAL SPECIFICATIONS
PURCHASE OF TECHNICAL AND SCIENTIFIC EQUIPMENT FOR FY 2021
(SUPPLY, DELIVERY, INSTALLATION, AND TRAINING)
NEGOTIATED PROCUREMENT-TWO FAILED BIDDINGS

BACKGROUND AND RATIONALE

The Philippine Science High School System prepares its students to become globally competitive Filipino scientists equipped with 21st-century skills. Likewise, the PSHSS offers a curriculum that emphasizes science and mathematics and prepares its students for careers in Science and Technology. The Philippine Science High School System offers a research-based STEM curriculum to students with high aptitude in Science and Mathematics. PSHS also provides an avenue for those students whose passion and interest are leaned toward the arts, culture, music, languages, and other forms of humanistic expression. In line with this, there is a need to have several technical sets of equipment and musical instruments to help prepare and develop the holistic skills of the scholars to become globally competitive Filipino scientists and professionals someday.

SCOPE OF WORK AND JOB SPECIFICATIONS

The supplier should be able to provide the listed technical equipment and musical instruments following the specifications, and unit demonstration if necessary. The supplier must conduct training for the end-users on proper handling, troubleshooting, preventive maintenance, and others. For Lot No.1, the supplier should have their own certified technical personnel for the particular equipment. The service provider must conduct a pre-installation conference with the resident engineers and IT personnel of the procuring entity. The service provider must be in the business for not less than 5 years. The delivery and installation period will be 50 days.

APPROVED BUDGET FOR THE CONTRACT

The approved budget for the contract for Lot 1 is ONE MILLION AND ONE HUNDRED SIXTY THOUSAND PESOS (1,160,000.00), and lot 3 with ONE MILLION PESOS (1,000,000.00)

EVALUATION AND SELECTION CRITERIA

A proposal with the lowest calculated and responsive bid with complete documents shall be accepted.

PAYMENT SCHEME

Payment for the procured items shall be made utmost 30 working days from the day the said items are completely installed to the procuring entity and a certificate of training on proper handling, troubleshooting, and preventive maintenance is issued to the end-users.

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Item No.	LOT NO. 1				
	Unit	**ITEM DESCRIPTION**	**Qty**	**Unit Cost (Php)**	**Total Cost (Php)**
	LOT	**Supply and Delivery of Physics Amateur Radio Satellite Ground Station Equipment**	1		**1,160,000.00**
1	unit	**All Mode VHF/UHF Transceiver** Frequency coverage: 144.000–148.000, 430.000–450.000, 1240.000–1300.000 MHz Mode: SSB, CW, RTTY, AM, FM, DV, DD Number of channels: 107 (99 Simplex + 6 Program scan edges + 2 CALL) × 3 bands, 99 (Satellite), 2500 (DR function) Antenna connectors: 144 MHz SO-239 (50 Ω), 430/440, 1200 MHz Type-N (50 Ω) Power supply requirement: 13.8 V DC ±15% (Negative ground) **Transmitter** Output power (144 MHz) 144 MHz 430/440 MHz 1200 MHz SSB/CW/FM/RTTY/DV/DD 0.5–100 W 0.5–75 W 0.1–10 W AM 0.125–25 W 0.125–18.75 W 0.025–2.5 W **Receiver** Receiver system: Audio output power: More than 2.0 W (1 kHz, 10% distortion) into an 8 Ω load **NTC radio station licensing** 1 year, unit registration, Permits – purchase/posses/ Construct, ntc processing Fees, PECE signature & Stamping/certification,	1		

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		Network diagram & other Technical documents, radio Permits/license, notary.			
2	unit	**HF/50MHz All Mode Transceiver** Frequency coverage Rx: 0.030– 60.000 MHz Tx: 1.800–1.999, 3.500–3.999, 5.255–5.405 7.000–7.300, 10.100–10.150, 14.000–14.350, 18.068–18.168, 21.000–21.450, 24.890–24.990, 28.000–29.700, 50.000–54.000 MHz Mode: USB, LSB, CW, RTTY, PSK31/63, AM, FM Number of channels: 101 (99 regular, 2 scan edges) Antenna connectors: SO-239 × 2 (50 Ω unbalanced (Tuner off))BNC × 1 (RX antenna In/Out) Power supply requirement: 13.8 V DC ±15% Power consumption TX: 23 A (at 100 W output power) RX: 3.0 A (Standby), 3.5 A (Maximum audio) **Transmitter** Output power (HF/50 MHz): SSB/CW/FM/RTTY/PSK: 1–100 WAM: 1–25 W Digital P.S.N. **Receiver** Receiver system: Direct Sampling Superheterodyne **NTC radio station licensing** 1 year, unit registration, Permits – purchase/posses/ Construct, ntc processing Fees, PECE signature & Stamping/certification, Network diagram & other Technical documents, radio Permits/license, notary.	1		
3	Length	**Coax Cable (Low Loss Cable)** Generic Name: LMR-400 Flex Type: Flexible Impedance: 50 Ohm Dielectric Type: PE (F) Velocity of Propagation: 85 % Jacket Material: PE	100 m		

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		No. of Shields: 2 Attenuation at 1 Ghz.: 4.25 dB RF Shielding: 90 dB Frequency, Max: 6 GHz Max Operating Temperature: 85° C Center Conductor Type: Solid Coax Type: Coax			
4	unit	**SM-50 (Microphone)** Microphone Element: Dynamic Sensitivity: -30 dB ± 4dB (1 kHz, 0 dB = 1 V/1 Pa) Impedance: 55 Ohms ± 30% (at 1 kHz) Power requirement: 5-10 VDC	2		
5	unit	**Power Supply** Power Supply Type: Linear, Regulated Power Supply Continuous Output: 23A at 13.8 Vdc Power Supply Peak Output: 30A or better at 13.8 Vdc Power Supply Metering Type: Dual meters Power Supply Cooling Type: Fan	2		
6	unit	**144/430(2m/70cm) Dual Band Antenna** Vertical Antenna Height: 24 ft. Antenna Material: Fiberglass Antenna Power Rating: 200 W Antenna Connector: Type N, female Mast Mounting Type: Clamp-on	2		
7	unit	**Handheld Transceiver (Digital 2way Radio)** Frequency Ranges: A(Main) Band RX: TX: 0.5 - 1.8MHz (AM Broadcast) 1.8 - 30MHz (SW Band) 30 - 76MHz (50MHz HAM) 76 - 108MHz (FM Broadcast) 108 - 137MHz (Air Band) 137 - 174MHz (144MHz HAM) 174 - 222MHz (VHF TV) 222 - 420MHz (GEN1) 420 - 470MHz (430MHz HAM) 470 - 800MHz (UHF Band) 800 - 999.90MHz (GEN2, USA Cellular Blocked) B(Sub) Band RX: 108 - 137MHz (Air Band) 137 - 174MHz (144MHz HAM) 174 - 222MHz (VHF) 222 - 420MHz (GEN1) 420 - 470MHz (430MHz HAM) 470 - 580MHz (UHF Band)	3		

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		144 - 148MHz, 430 - 450MHz NFM/ AM: Double-Conversion Super heterodyne Direct-Conversion Circuit Type: FM /AM Radio: Modulation Type: F1D, F2D, F3E, F7W RF Power Output: 5W/ 2.5W/ 1W/ 0.3W Memory Channels: 1256 Waterproof Rating: IPX5 **NTC radio station licensing** 1 year, unit registration, Permits – purchase/posses/ Construct, ntc processing Fees, PECE signature & Stamping/certification, Network diagram & other Technical documents, radio Permits/license, notary.			
8	unit	**HF Dipole Antenna** Frequency range: 1.9 to 30 MHz Power rating: 150 Watt Input impedance: 50 Ohm VSWR: Less than 2:1 (1.9 to18 MHz), less than 2.5:1 (18 to 30 MHz) Length: 24.5 m (80.4 ft) Coaxial feed line: 30 m (90.4 ft) with PL-259 plug	1		
9	unit	**HF/VHF Digital SWR/Wattmeter** Meter Frequency Range: 1.8-60/125-525 MHz Minimum Power Range: 2W Middle Power Range: 20 W Maximum Power Range: 200 W Meter Style: LCD Multi-function display Meter RF Connector Type: UHF female, SO-239 External Power Input Voltage: 10-14 Vdc	1		

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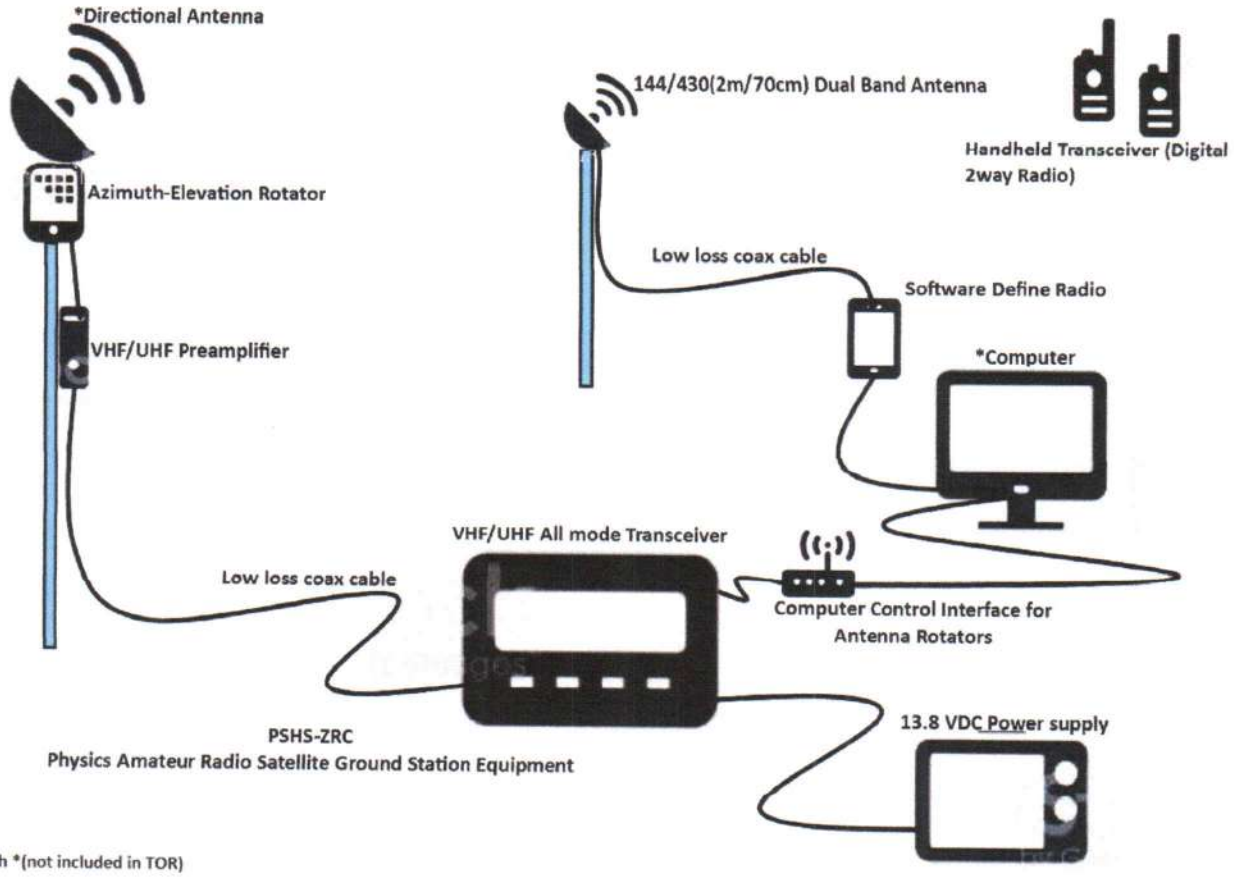

With *(not included in TOR)

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Item No.	LOT 3				
	LOT	**Supply and delivery of musical instruments**	Qty		**1,000,000.00**
1	unit	**Keyboard** -88 full-sized hammer action keys with adjustable touch response -12 premium built-in realistic voices -20-watt built-in speakers -contains lesson mode and record mode features -¼" (6.35mm) headphone output -¼" (6.35mm) sustain pedal input (pedal not included) -stereo ¼" (6.35mm) outputs -USB-MIDI output	20		
2	unit	**Keyboard Stand** - Round and square 30mm (1.18") steel tubing for strength and support - Second tier has slight tilt for comfortable playing and height is adjustable from 198-300mm - Adjustable end cap provides stability on uneven floors -Base Dimension (Height x Width): Setting 1: 610 mm x 810 mm (24" x 31.5") Setting 2: 750 mm x 690 mm (29.9" x 26.9") Setting 3: 865 mm x 550 mm (34" x 21.4") Setting 4: 950 mm x 390 mm (37.4" x 15.2")	20		
3	unit	**4/4 Cello 9** -Top: Solid Spruce -Back & Sides: Solid Maple -Neck: Maple -Fretboard: Ebony (ebony) -Tuners: Ebony (ebony) -Base: Maple -Tailpiece: with 4 machines -Finish: Glossy Lacquer -Color: Natural -Includes: semi-hard case, bow	2		
4	unit	**Violin** -full-size 4/4 with genuine bow and hard, individual casing - Solid carved Manchurian spruce top - Flamed Himalayan maple back and sides - Ruby brown finish - Ebony fittings - Polished steel strings	2		

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5	unit	**Bass Amplifier** -Active 3 Band Eq, Parametric Mid Control, Bi-Amp Inspired Blend & Gain Controls (Foot switchable), Balanced Output, Buffered Effects Loop, Chromatic Tuner, Cabsim-Loaded Headphone Output & Aux In -Controls (Right To Left): -6db Pad Switch, Gain, Blend, Bass, Frequency, Middle, Treble, Volume (Below) Integrated Chromatic Tuner -Finish Options: Orange or Black Basket weave Vinyl -Output Power: 100 Watts -Speaker: 15" -Unboxed Dimensions (W X H X D): 51 × 55 × 35.5cm (20.07 × 21.65 × 13.98") -Unboxed Weight: 24.25kg (53.46lb)	1		

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Keyboard

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Keyboard Stand

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Cello

Bass Amplifier

Violin

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Service and Warranty

- 1-year free calibration and preventive maintenance on site.
- Complete with necessary installation accessories for immediate operation and start-up
- During the warranty period, the supplier must repair or replace any system component at no charge.
- Deliver, set into place, make all the final connections, and start-up of the instrument.

Training

- The training should cover lectures on proper handling as well as intensive hands-on operation and this should be conducted on-site.

Documentation

- 1 original copy and 1 photocopy of operating and service manuals in English.
- Must provide the necessary information and test procedures required to prove that the instrument meets the specified requirements.
- Brochure with pictures must be provided during the bid opening.

Testing and Acceptance

- If the instrument or equipment does not meet standard performance expectations, the Supplier will have one month to rectify the defects and clear the acceptance test, failing which, PSHS-ZRC reserves the right to get the equipment replaced by the Supplier at no extra cost to PSHS-ZRC.

Other Requirements:

- On warranty and after-sales support, ALL delivered items should have one (1) year warranty on parts.
- Standard voltage of the power supply should be 220 V.
- Render support services to PSHS-ZRC within the warranty period as follows:
  a. Technical support will be provided through phone calls or email within regular working hours from Monday to Friday, 8:00 AM to 5:00 PM
  b. If the supplied equipment is found defective and needs to be pulled out, the contractor shall provide replacement with the same or higher specifications.
  c. Rectify and or/replace any part that fails to pass any test or make alterations necessary to meet the specification.

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